NEW BEDFORD TEXTILE SCHOOL

CATALOGUE
1916 -- 1917

Purchase Street
New Bedford, Massachusetts

CATALOGUE

New Bedford Textile School



NEW BEDFORD, MASS.

1916–1917



MACHINERY BUILDING

OFFICERS OF THE CORPORATION FOR THE YEAR 1916.

WILLIAM E. HATCH, President.
FREDERIC TABER, Treasurer.
JAMES O. THOMPSON, JR., Clerk.

TRUSTEES.

On Behalf of the Commonwealth of Massachusetts.

WILLIAM E. HATCH.
ABBOTT P. SMITH,
Director Butler, N. B. Cotton, Quissett, Soule and Taber Mills.

Ex-Officio on the part of the City of New Bedford.

Hon. EDWARD R. HATHAWAY, Mayor.
ALLEN P. KEITH, Superintendent of Schools.

TRUSTEES AT LARGE.

LEWIS E. BENTLEY, former Superintendent Bennett Mills of the New England Cotton Yarn Co.
GEORGE E. BRIGGS, Director Whitman Mills.
CHARLES O. BRIGHTMAN.
WILLIAM A. CONGDON, Agent Whitman Mills.
HON. W. W. CRAPO, President Acushnet, Potomska and Wamsutta Mills, and Director Gosnold and Hathaway Mills.
WILLIAM O. DEVOLL, Treasurer Potomska Mills.
CHARLES O. DEXTER, Agent Beacon Manufacturing Co.
JOHN DUFF, President Soule Mill, and Director Bristol Mill.
THOMAS F. GLENNON, Agent Quissett Mill.
CHARLES M. HOLMES, Treasurer Holmes Mill.
NATHANIEL B. KERR, Vice President Butler Mill, Director New Bedford Cotton Mills.
EDWARD O. KNOWLES.
JOHN NEILD, Agent Neild Mill.
HON. DAVID L. PARKER, Director Pierce and Potomska Mills.
HON. SAMUEL ROSS, Secretary Mule Spinners' Union.
JOHN SULLIVAN, Agent of Taber Mill.
FREDERIC TABER, President Taber Mill, New Bedford Safe Deposit and Trust Co., and New Bedford Cooperative Bank.
JAMES O. THOMPSON, JR., Agent N. B. Cotton Mills.
WILLIAM A. TWISS, Superintendent Kilburn Mill.
SAMUEL F. WINSPER, Superintendent City Mill.

EXECUTIVE COMMITTEE.

WILLIAM E. HATCH, Chairman.

NATHANIEL B. KERR,
CHARLES M. HOLMES,
JAMES O. THOMPSON, JR.,
LEWIS E. BENTLEY,
ABBOTT P. SMITH,
FREDERIC TABER.



RECITATION BUILDING

ADMINISTRATION AND INSTRUCTION.

ADMINISTRATION.

WILLIAM E. HATCH, A. M.,
President of the Corporation and Managing Director.
FREDERIC TABER, *Treasurer.*
MAUD L. CLARK, *Chief Clerk.*
DORIS F. YOUNG, *Assistant Clerk.*

INSTRUCTION.

HENRY W. NICHOLS, A. B.,
Chief Instructor.

HEADS OF DEPARTMENTS.

WILLIAM SMITH,
Carding and Spinning.
THOMAS YATES,
Warp Preparation and Weaving.
SAMUEL HOLT,
Designing.
FRANK PAYTON,
Knitting.
EVERETT H. HINCKLEY, S. B.,
Chemistry and Dyeing.
SERENO G. MILLER, M. E.,
Engineering.

INSTRUCTORS.

MORRIS H. CROMPTON,
Machine Shop Practice.
THOMAS B. O'BRIEN,
Carding and Spinning.
RAYMOND A. BURT, JOHN W. BALDWIN,
Chemistry and Dyeing.

Engineer,
JOHN F. JUDGE.

The President, Chief Instructor and Heads of Departments constitute the Faculty of the School.
The Day Instructors serve both day and evening.



MAIN STAIRWAY, MACHINERY BUILDING

ASSISTANT EVENING INSTRUCTORS.

Carding and Spinning:

Bruce Cary,
Stephen K. Dyer,
John F. Glennon,
Charles F. Heap,
Leonard H. Mellor,
Harold A. Perkins,
Harry L. Ray.

Warp Preparation and Weaving:

Benjamin A. Bradshaw,
Albert E. Dean,
Frederick W. Holt,
Peter J. Macy,
Patrick J. Mahoney,
William Mitchell,
Josef Niedzwicki.
Joseph Pedro,
John Reynolds.
John Yanovsky.

Mill Calculations:

John F. Hagen.

Arithmetic:

Harrison D. Ricketson.

Designing:

Victor O. B. Slater,
Jean C. Uberti.

Mechanical Drafting:

Milton J. Bentley,
Wallace B. Baylies,
James L. Sherman, 2nd.

Machine Shop Practice:

Albert Jones,
Simeon B. Livesley.

1916 CALENDAR 1917

JULY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	–	–	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	–	–	–	–	–

AUGUST.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	–	–
–	–	–	–	–	–	–

SEPTEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
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OCTOBER.

Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	–	–	–	–
–	–	–	–	–	–	–

NOVEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	–	–
–	–	–	–	–	–	–

DECEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	–	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	–	–	–	–	–	–

JANUARY.

Su	Mo	Tu	W	Th	Fr	Sa
–	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	–	–	–
–	–	–	–	–	–	–

FEBRUARY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	–	–	–
–	–	–	–	–	–	–

MARCH.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
–	–	–	–	–	–	–

APRIL.

Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	–	–	–	–	–
–	–	–	–	–	–	–

MAY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	–	–
–	–	–	–	–	–	–

JUNE.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	–	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
–	–	–	–	–	–	–

SCHOOL CALENDAR—1916-17.

1916.

Thursday, June 15, at 9 a. m. First Entrance Examinations for Day Students.

Friday, Sept. 8, at 9 a. m. Second Entrance Examinations for Day Students.

Monday, Sept. 11. Beginning of First Semester for Day Students.

Thursday, Sept. 21, and Friday, Sept. 22, from 7 to 9 p. m. Enrollment of Evening Students at the School.

Monday, Sept. 25, at 7.30 p. m. Beginning of First Term for Evening Students.

Monday, Nov. 13 to Friday, Nov. 17, inclusive. Mid-term Examinations, First Semester for Day Students.

Wednesday, Nov. 29, 12 m., to Saturday, Dec. 2, inclusive. Thanksgiving Recess.

Monday, Dec. 11 to Friday, Dec. 15, inclusive. Examinations for Evening Students.

Friday, Dec. 22. End of First Term for Evening Students.

Saturday, Dec. 23 to Tuesday, Jan. 2, 1917, inclusive. Christmas Recess.

1917.

Monday, Jan. 1, and Tuesday, Jan. 2, from 7 to 9 p. m. Enrollment of Evening Students for Second Term at the School.

Thursday, Jan. 4, at 7.30 p. m. Beginning of Second Term for Evening Students.

Monday, Jan. 22 to Friday, Jan. 26, inclusive. Mid-year Examinations for Day Students.

Friday, Jan. 26. End of First Semester for Day Students.



LECTURE HALL

Monday, Jan. 29. Beginning of Second Semester for Day Students.

Monday, March 26 to Friday, March 30, inclusive. Examinations for Evening Students.

Friday, March 30. End of Second Term for Evening Students.

Monday, March 26 to Friday, March 30, inclusive. Midterm Examinations, Second Semester for Day Students.

Saturday, March 31 to Saturday, April 7, inclusive. Spring Recess.

Tuesday, June 5 to Friday, June 8, inclusive. Final Examinations for Day Students, Senior Class.

Monday, June 11 to Thursday, June 14, inclusive. Final Examinations for Remainder of Day Classes.

Thursday, June 14. First Entrance Examinations for Day Students.

Friday, June 15. End of School Year and Graduating Exercises.



ASSEMBLY ROOM

THE LOCATION OF THE SCHOOL.

The school is situated in the centre of the city of New Bedford, Mass., on the main car line of the city which connects the mill districts and is readily accessible to mill operatives who attend the evening sessions of the school. It is near the residential part of the city and is therefore conveniently situated for non-resident pupils who take up a temporary residence in the city.

New Bedford is an especially suitable location for an institution of this character. It is the largest cotton manufacturing city of fine yarns and fancy woven fabrics and novelties in the country. Its spindles number 3,014,851 and looms 53,733. Capital invested $41,844,500, and employees 32,120. Several large additions to mills are now under way that will add thousands of spindles to the above.

High grade combed yarns are produced in New Bedford to a greater extent than in any other city, while the mills are engaged in the manufacture of fine shirtings, muslins, lawns, sateens, lenos, checks, piques, and other fancy fabrics to an extent unknown elsewhere. New Bedford's great advantage in this respect can be attributed principally to the fact that her mills are nearly all of recent construction with the most improved and up-to-date equipment. The environment of these mills is in itself a benefit to the students who select the New Bedford Textile School as the institution in which to learn the mill business, as they have opportunity to observe their construction and operation and to find employment in them during the long summer vacations and upon finishing their course in the school.

New Bedford is within short distance of Hopedale, Whitinsville, Hyde Park, Providence, Pawtucket, Woonsocket, Taunton, and other large cotton machinery centres.



SECTION A OF EXHIBITION ROOM

It is one of the healthiest of the manufacturing cities in the United States. Picturesquely situated on the extreme south shore of Massachusetts, it enjoys one of the mildest winter climates in New England and thus offers peculiar residential advantages for non-resident students.

THE BUILDINGS.

The school is housed in two separate buildings connected by a tunnel in the basement and by covered bridges overhead. They are constructed of red brick with trimmings of Indiana sandstone. They are classified as the machinery building and the recitation building.

The first now comprises the original building, erected in 1898-9, and the first two additions, erected in the years 1901-2 and 1905 respectively. This building is 164 feet in length, with an average depth of 77.3 feet. It is three stories high with basement under most of it and contains a floor space of 46,600 square feet. In it are situated the administration offices, the power house, and all the departments comprised in a cotton yarn and cotton cloth mill as shown by the cuts distributed throughout this catalogue. In addition it has two large thoroughly equipped rooms for instruction in the art of knitting, both for hosiery and underwear, also shown in cuts.

The recitation building was completed and occupied in the fall of 1911. It consists of a main building 108 feet by 93 feet 6 inches, three stories high, with a deep well-lighted basement under the whole of it and contains 40,392 square feet of floor space. It also has an annex 68 feet 3 inches long by 19 feet 3 inches deep, one story high, with basement, and contains 2,634 square feet of floor space. This annex is used as an experimental laboratory and as a store room for chemical supplies.

The main building besides being equipped with recitation and lecture rooms of various sizes, has a thoroughly equipped chemical laboratory, dyeing and finishing rooms, engineering laboratories, a commodious machine



SECTION B OF EXHIBITION ROOM

shop, drafting rooms, a designing room especially fitted, an exhibition room, and an assembly hall that will seat four hundred persons.

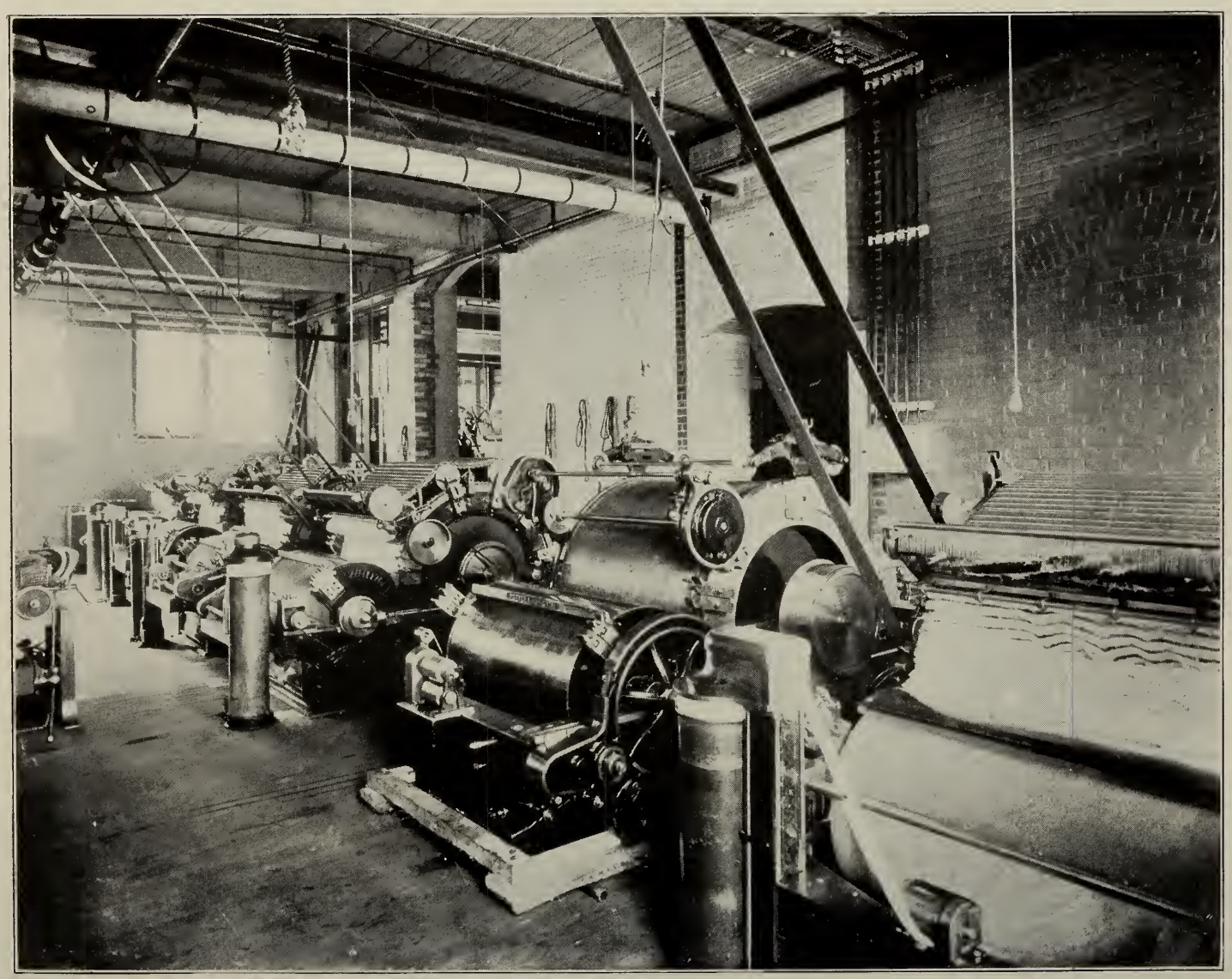
Both structures are of the slow burning mill construction type approved by the leading fire insurance associations and mill engineers, while the general equipment of the plant is also illustrative of the best methods of lighting, heating, ventilating, humidifying and fire-protecting mills. Great attention has been paid, in planning and arranging these buildings for the school, to make them most suitable for the purposes of imparting textile instruction and that the machinery building should give an object lesson in cotton mill engineering.

Power, heat and light are supplied the school from its own power plant. The fire protection was designed and installed by the General Fire Extinguisher Co. of Providence, R. I., the well-known Grinnell sprinkler being used. The American Moistening Co. installed a complete humidifying apparatus. The whole equipment is approved by the Massachusetts State Inspectors of public buildings.

THE SCHOOL AND ITS PURPOSE.

The Legislature of the Commonwealth of Massachusetts, in the Act under which the Trustees of the New Bedford Textile School were incorporated, gives as the purpose of the incorporation that of establishing and maintaining a textile school for instruction in the theory and practical art of textiles and kindred branches of industry.

As New Bedford is primarily a cotton-manufacturing city, this school confines itself principally to instruction in the cotton branch of the textile industry and seeks to perfect itself in this line. Its course of instruction is arranged to subserve the interests of two general classes of students: (1) day students, those who give their whole time for two or three years to acquiring the theory as well



CARDING AND SPINNING DEPT., showing Cards

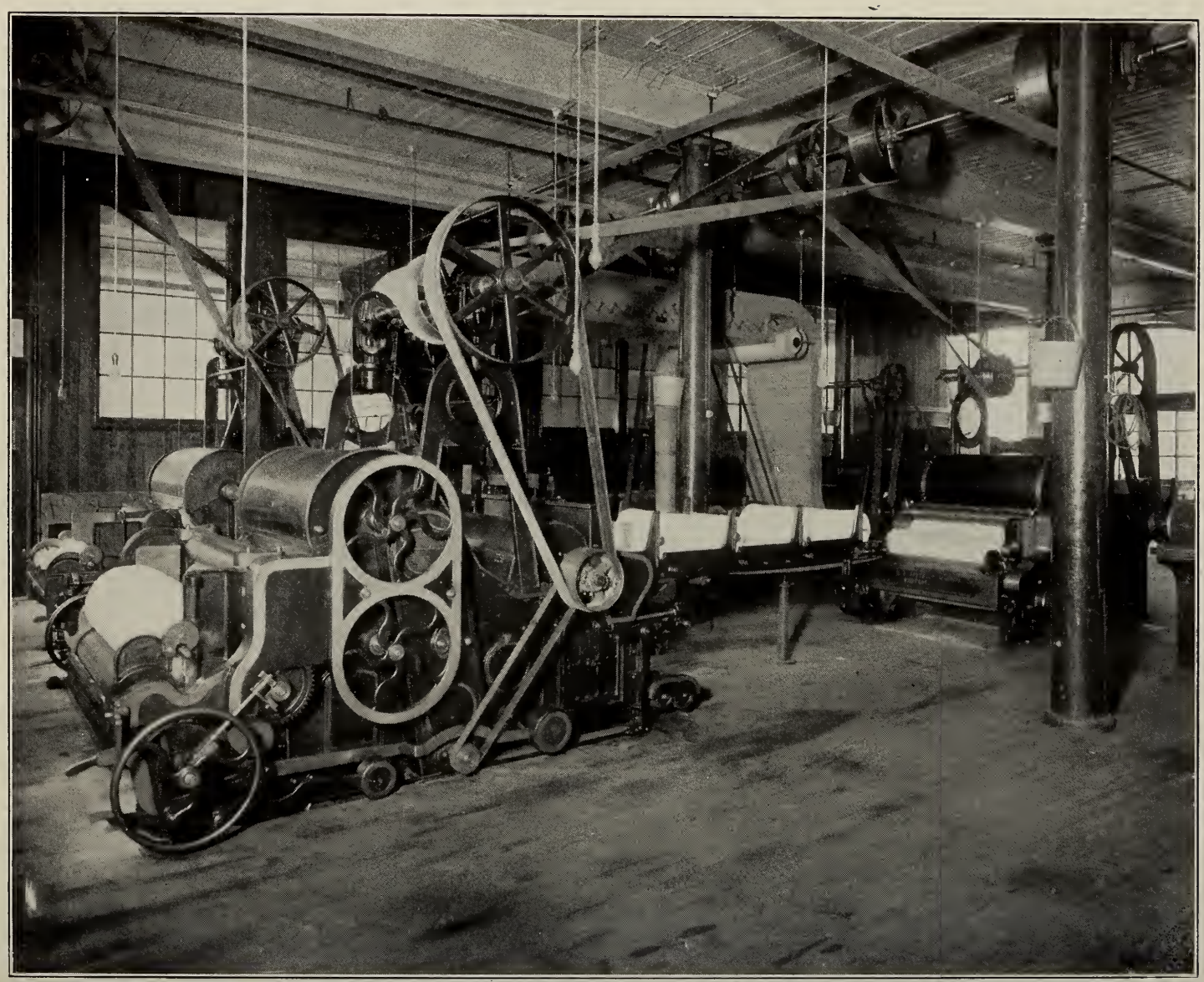
as the practice of cotton manufacturing in all its details, from the raw cotton to the finished fabric, and also have instruction in the scientific principles which underlie the construction of the machinery and its operation, and the artistic principles which are involved in the production of desirable and ornamental fabrics; (2) evening students, those who are employed in the mills during the day and who, by attending the Textile School evenings, are able to learn other phases of the industry from that in which they are employed, or to perfect themselves in their special lines of work, and become more efficient workmen. The courses of instruction for these two classes of students are given fully on other pages of this catalogue.

The whole of the machinery in the school is absolutely modern, being constructed especially for the school. It is all high grade, has latest improvements, and is especially built to afford facilities for all kinds of experimental work, and represents all the leading types of machines from the best builders in the United States, and several English builders.

There is no mill in which there is so large a variety of machinery as in the New Bedford Textile School. This consequently affords the student a better opportunity to become acquainted with various machines and methods than could be found in any one manufacturing establishment.

Each instructor in the day school is a man who is thoroughly conversant with the work of the department under his charge by thorough training and long experience. Each one has charge of the work in his department at night also, assisted by experienced assistants from the mills, many of whom are graduates of this school.

The school went into operation in 1899 and the first class was graduated in 1900. The regular courses were at first one year in length. This continued for several years, but these were afterward lengthened and now the regular diploma courses are three years long. Special



courses of shorter length are arranged, however, for students for which certificates are granted.

Since the school was opened, over seven thousand students have attended the school and received instruction in courses of various lengths. Of these, two thousand, forty-nine have been awarded diplomas or certificates. Reports received from them show that the knowledge acquired in this school has proved of great benefit to them in securing more rapid advancement in the industry than would have been possible without such instruction. Employers and employes both unite in testimony as to the value of the textile schools in promoting the efficiency, broadening the scope of opportunity, and securing advancement in the cotton mills and allied industries to those who have had the advantages offered by them.

DAY CLASSES.

The regular day courses of the school are as follows:

General Cotton Manufacturing.
Chemistry, Dyeing and Finishing.
Designing.
Textile Engineering.
Seamless Hosiery Knitting.
Latch Needle Underwear Knitting.

All the above courses are diploma courses, three years long, and are intended to qualify students to hold positions of responsibility in textile manufacturing and allied establishments.

The advantages of these courses to qualify men to hold responsible positions in cotton mills, dyeing and finishing plants, commission houses, etc., are many. These industries, as conducted, are not adapted to give a young man a technical education. The opposite is the case where the primary object is to impart knowledge and to train in the correct method of doing things.

It is not expected that a young man, going from this school, will at once secure an executive position. It is expected, on the contrary, that he will begin in a more humble fashion, and, with the knowledge acquired in the school and the experience gained in the mill itself, he will be qualified to hold higher positions and his advancement will be much more rapid and his knowledge broader than one who has not had the school instruction and training. That such is the case is shown already by the positions now held by the graduates of the school.

Many of them are occupying positions of trust and responsibility in the textile and allied industries as manufacturers, treasurers, agents, superintendents, assistant superintendents, designers in mills and commission houses, overseers, chemists and dyers, etc. Some have been called

to good positions as designers directly from the school and many who have attended the evening classes have so improved in skill and knowledge that they have advanced in position and earning power.

That the work of the school is recognized by textile manufacturers and those engaged in allied industries is attested by the fact that applications are constant for men of the school, more than can be supplied. One of the largest bleaching establishments in the country has assured us that it is ready to take all the men from the chemistry and dyeing department that we will recommend.

But this school does not agree to make successful men out of lazy, careless, and indifferent boys, nor does it care for such boys as students. But for those who wish to learn, who are ready to work, who are willing to bide their time, it does offer an opportunity that will supply them with an honorable vocation with many opportunities for advancement in the world with good remuneration.

In case a prospective student feels that no one of the diploma courses meets his particular needs he is requested to communicate with the president and manager, stating his wishes. Whenever possible, special courses will be given in the various departments for which certificates will be granted stating the subjects taken and the time given to them. The limitations of these special courses will be determined in every case by the management.

GENERAL COTTON MANUFACTURING COURSE.

FIRST YEAR.

First Term.

Subject	Hours per week
Pickers and Cards (101),	6½
Weaving (111),	6½
Cloth Analysis (121 & 151),	3½
Designing (131),	1½
Hand Loom (161),	1½
Principles of Mechanics (171),	1
Mechanical Drawing (172),	5½
Chemistry (182),	6½

Second Term.

Subject	Hours per week
Cards and Drawing Frames (102),	5
Weaving (112),	5
Warp Preparation (122),	3½
Designing (132),	1½
Cloth Analysis (152),	3½
Hand Loom (161),	1½
Mechanical Drawing (172),	3
Machine Shop Practice (174),	3
Textile Chemistry and Dyeing (222),	6½

SECOND YEAR.

First Term.

Subject	Hours per week
Roving and Spinning Frames (103),	10
Weaving (113),	3½
Designing (133),	2
Cloth Analysis (153),	5
Machine Drawing (173 and 175),	1½
Machine Shop Practice (174),	3
Steam Engineering (176),	1½
Dyeing (223),	6

Second Term.

Subject	Hours per week
Doubling and Drafting (104),	6½
Cotton Sampling (107),	1½
Weaving (114),	5½
Designing (134),	2
Cloth Analysis (154),	5
Machine Shop Practice (174),	3
Machine Drawing (175),	1½
Steam Engineering (176),	1½
Textile Chemistry (234),	6

THIRD YEAR.

First Term.

Subject	Hours per week
Combers and Mules (105),	10
Weaving (115),	6½
Designing (135),	1½
Color (145),	2
Cloth Analysis (155),	4½
Machine Shop Practice (174),	3
Electrical Engineering (177),	2
Option of Carding and Spinning or Knitting (294),	3

Second Term.

Subject	Hours per week
Carding and Spinning Tests (106),	10
Weaving (116)	6½
Designing (136),	1½
Color (146),	2
Cloth Analysis (156),	3½
Machine Drawing (175),	2
Mill Engineering (178),	3
Figuring Costs (179),	1
Option of Carding and Spinning or Knitting (294),	3

GENERAL COTTON MANUFACTURING COURSE.

The course in cotton manufacturing is designed to give the student a thorough fundamental knowledge of the different processes entering into the construction of a piece of cloth from the raw staple to the finished product.

During the first year the student takes up the study of yarn preparation, weaving, designing, and cloth analysis. The study of mechanics, mechanical drawing and chemistry is also pursued the first year, the work in these subjects being designed especially for men who are to take up the cotton mill work. Practical work in the machine shop is entered upon the second term. Instruction in yarn calculations, spooling, warping, and slashing is also offered during the first year.

In the second and third years sufficient time is given to instruction in picking, carding and spinning, while the subjects of weaving, designing and analysis are continued.

Dyeing is begun the first year, the work being such as is of especial interest to the student of cotton manufacturing. The student is also given instruction in steam engineering during the second year, while in the third year, work in electrical engineering and cotton mill construction is offered. The study of color is taken up during the third year.

The work in all subjects is so arranged that the student is taken gradually from the simpler to the more difficult problems. Much of the work in the last year is original, and the student is thrown on his own resources.

The work in chemistry, dyeing, mechanics and shop practice is all arranged with special reference to the student of cotton manufacturing.

This course is very thorough, and is always recommended to the student who is to make cotton cloth manufacturing his future work.

DESIGNING COURSE.

FIRST YEAR.

First Term.

Subject	Hours per week
Weaving (111),	10
Cloth Analysis (121 and 151),	13
Designing (131),	1½
Hand Loom (161),	1½
Principles of Mechanics (171),	1
Mechanical Drawing (172),	5½

Second Term.

Subject	Hours per week
Weaving (112),	8½
Warp Preparation (122),	3½
Designing (132),	1½
Cloth Analysis (152),	11
Hand Loom (161),	1½
Mechanical Drawing (172),	3
Machine Shop Practice (174),	3½

SECOND YEAR.

First Term.

Subject	Hours per week
Weaving (113-4),	10
Designing (133),	2
Color (145),	2
Cloth Analysis (153-4),	12½
Machine Drawing (173 and 175),	1½
Machine Shop Practice (174),	3
Steam Engineering (176),	1½

Second Term.

Subject	Hours per week
Cotton Sampling (107),	2
Weaving (115),	10
Designing (134),	2
Color (146),	2
Cloth Analysis (155),	10½
Machine Shop Practice (174),	3
Machine Drawing (175),	1½
Steam Engineering (176),	1½

THIRD YEAR.

First Term.

Subject	Hours per week
Weaving (116),	13
Jacquard Designing (135),	13½
Cloth Analysis (156),	6

Second Term.

Subject	Hours per week
Weaving (116),	13
Jacquard Designing (136),	10½
Cloth Analysis (156),	3
Commission House Work (157),	3
Finishing (235),	3

DESIGNING COURSE.

The course in designing is offered for those students who are seeking a thorough knowledge of cloth construction and weaving, and who do not wish to pursue the subjects common to the carding and spinning branch of the industry. This course is very complete, and enables the student who does satisfactory work to perform satisfactorily the work of a designer in a mill or commission house.

Designing, cloth analysis, and weaving are the principal subjects taught, and extend through the three years. Instruction in yarn calculations, spooling, warping, slashing, cotton sampling, free-hand drawing, mechanics and steam engineering are also required, the work being arranged to meet the special needs of the student following this course. For the student who wishes to perfect himself in the subject of designing, this course will be found very complete.

CHEMISTRY, DYEING AND FINISHING COURSE.

FIRST YEAR.

First Term.

Subject	Hours per week
Principles of Mechanics (171),	1
Mechanical Drawing (172),	5½
General Chemistry (181),	13
Inorganic Preparations (183),	7
Qualitative Analysis (191),	6

Second Term.

Subject	Hours per week
Mechanical Drawing (172),	3
Machine Shop Practice (174),	3
Qualitative Analysis (192),	3
Quantitative Analysis (202),	10½
Organic Chemistry (212),	7
Textile Chemistry and Dyeing (222),	6

SECOND YEAR.

First Term.

Subject	Hours per week
Color (145),	2
Machine Drawing (173 and 175),	1½
Machine Shop Practice (174),	3
Steam Engineering (176),	1½
Quantitative Analysis (202),	9
Organic Chemistry (213),	6
Dyeing (223),	6
Textile Chemistry (233),	3½

Second Term.

Subject	Hours per week
Color (146),	2
Machine Shop Practice (174),	3
Machine Drawing (175),	1½
Steam Engineering (176),	1½
Dyeing (224),	13
Textile Chemistry (234),	11½

THIRD YEAR.

First Term.

Subject	Hours per week
Machine Shop (174),	3
Electrical Engineering (177),	2
Dyeing (225),	10½
Singeing (240),	3
Scouring (241),	6
Bleaching (242),	4
Mercerizing (245),	4

Second Term.

Subject	Hours per week
Machine Drawing (175),	2
Drying (250),	6
Calendering (255),	9
Putting up (260),	3½
Thesis (269),	12

Chemistry, Dyeing and Finishing Course.

The object of this course is to give to the student a thorough knowledge of the chemistry of the textile processes involved in the manufacture of cotton cloth. To insure a perfect foundation the first two years are devoted almost entirely to chemical subjects and laboratory work. During this period the subjects of general chemistry, inorganic and organic are taught, the preparation and properties of various chemicals and dyestuffs, the properties of the various fibres and the coloring of them.

The third year is devoted almost entirely to the practical dyeing and finishing of cotton goods. The best current practice is followed, but the underlying principles are thoroughly taught in order that the student may understand the limitations and purpose of each process.

The subjects of machine drawing, principles of mechanics, electricity, and shop work are taught. These allied subjects are arranged with special reference to the major subjects and are considered very important, as they give the student a first-hand knowledge of the construction of the various machines.

The graduates of this course find employment with dyestuff makers and dealers, with manufacturers of chemicals used in dyeing, with bleacheries, dye houses, and finishing works.

It is desirable that students entering this course shall have successfully completed a scientific course in High school, or its equivalent. Anyone, however, who can show, by examination, his ability to profit by the instruction given, is admitted.

SEAMLESS HOSIERY KNITTING COURSE.

FIRST YEAR.

First Term.

Subject	Hours per week
Pickers and Cards (101),	6½
Principles of Mechanics (171),	1
Mechanical Drawing (172),	5½
Chemistry (182),	6½
Knitting (271),	13

Second Term.

Subject	Hours per week
Cards and Draw Frames (102),	5
Mechanical Drawing (172),	3
Machine Shop Practice (174),	3
Textile Chemistry and Dyeing (222),	6½
Knitting (271,)	15

SECOND YEAR.

First Term.

Subject	Hours per week
Roving and Spinning Frames (103),	6½
Machine Drawing (173 and 175),	1½
Machine Shop Practice (174),	3
Steam Engineering (176),	1½
Dyeing (223),	6
Knitting (272),	14

Second Term.

Subject	Hours per week
Doubling and Drafting (104),	6½
Cotton Sampling (107),	1½
Machine Shop Practice (174),	3
Machine Drawing (175),	1½
Steam Engineering (176),	1½
Textile Chemistry (234),	6
Knitting (273),	12½

THIRD YEAR.

First Term.

Subject	Hours per week
Combers and Mules (105),	6½
Machine Shop Practice (174),	3
Electrical Engineering (177),	2
Dyeing (226),	3
Knitting (274 and 293),	18

Second Term.

Subject	Hours per week
Carding and Spinning Tests (106),	6½
Machine Drawing (175),	2
Mill Engineering (178),	3
Dyeing (226),	3
Knitting (274 and 293),	18

SEAMLESS HOSIERY KNITTING COURSE.

The course in seamless hosiery knitting is adapted to the needs of those students desiring a thorough knowledge of the machines entering into the manufacture of hosiery. The larger part of the student's time is devoted to the instruction work on the knitting machinery, sixteen hours a week being given up to this work during the first year, fifteen hours a week during the first term of the second year, fourteen and one-half hours a week during the second term of the second year, eighteen hours a week during the first term of the third year, and eighteen hours a week during the last term.

Instruction is also given in cotton yarn preparation, yarn calculations, cotton sampling, mechanics, steam engineering, chemistry and dyeing, the work in these different subjects being arranged to meet the special needs of the student.

This course is recommended to those students who intend to become connected with a hosiery mill.

LATCH NEEDLE UNDERWEAR KNITTING COURSE.

FIRST YEAR.

First Term.

Subject	Hours per week
Pickers and Cards (101),	6½
Principles of Mechanics (171),	1
Mechanical Drawing (172),	5½
Chemistry (182),	6½
Knitting (281),	13

Second Term.

Subject	Hours per week
Cards and Draw Frames (102),	5
Mechanical Drawing (172),	3
Machine Shop Practice (174),	3
Textile Chemistry and Dyeing (222),	6½
Knitting (281),	15

SECOND YEAR.

First Term.

Subject	Hours per week
Roving and Spinning Frames (103),	6½
Machine Drawing (173 and 175),	1½
Machine Shop Practice (174),	3
Steam Engineering (176),	1½
Dyeing (223),	6
Knitting (282),	14

Second Term.

Subject	Hours per week
Doubling and Drafting (104),	6½
Cotton Sampling (107),	1½
Machine Shop Practice (174),	3
Machine Drawing (175),	1½
Steam Engineering (176),	1½
Textile Chemistry (234),	6
Knitting (283),	12½

THIRD YEAR.

First Term.

Subject	Hours per week
Combers and Mules (105),	6½
Machine Shop Practice (174),	3
Electrical Engineering (177),	2
Dyeing (226),	3
Knitting (284 and 293),	18

Second Term.

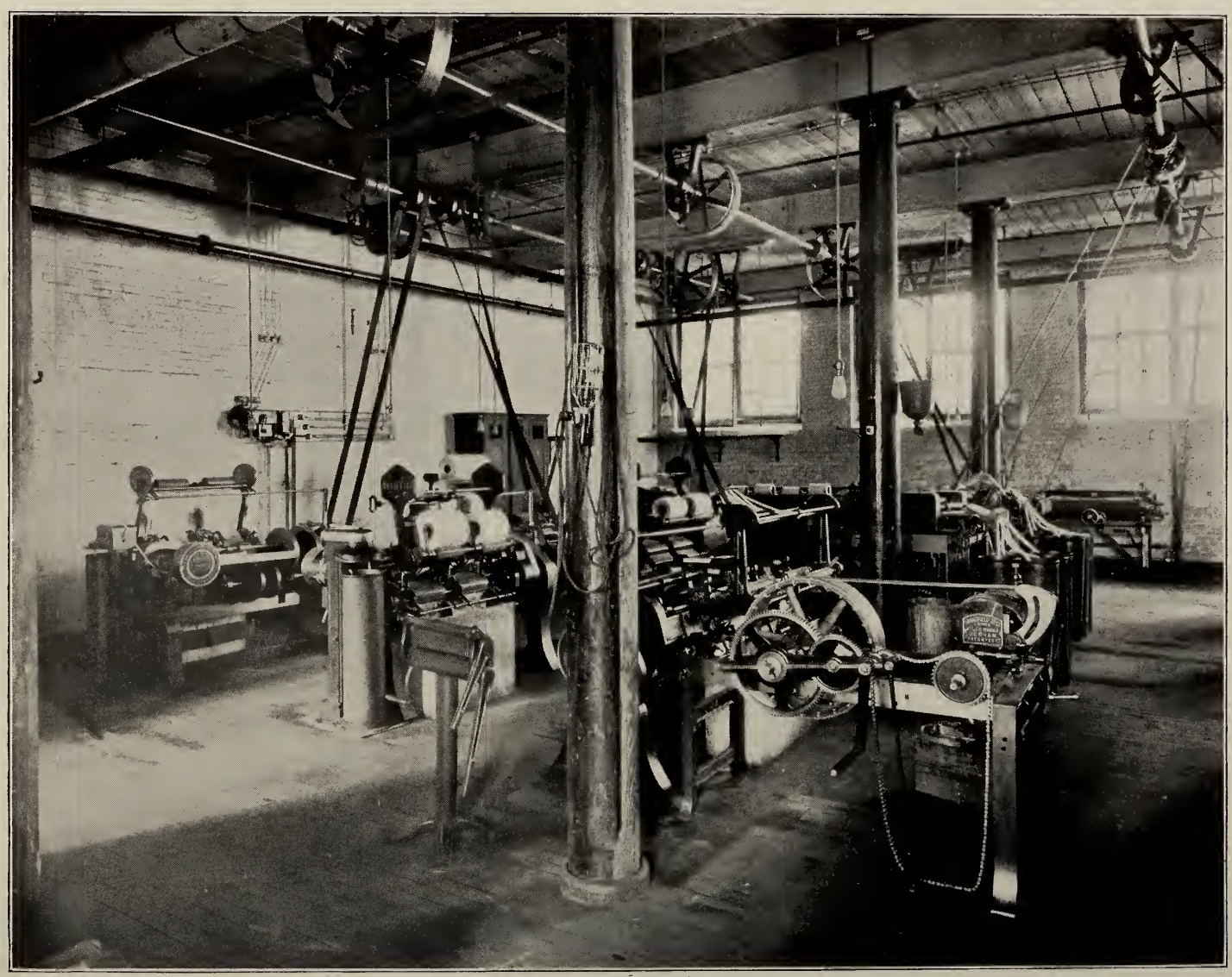
Subject	Hours per week
Carding and Spinning Tests (106),	6½
Machine Drawing (175),	2
Mill Engineering (178),	3
Dyeing (226),	3
Knitting (284 and 293),	18

LATCH NEEDLE UNDERWEAR KNITTING COURSE.

The course in latch needle underwear knitting is adapted to those students intending to become connected with this branch of the textile industry.

As in the case of the hosiery course the larger part of the student's time is devoted to instruction work on the knitting machines. Instruction is also given in cotton yarn preparation, yarn calculations, mechanics, steam engineering, cotton sampling, chemistry, and dyeing. As is the case with all other courses offered, instruction in these correlated subjects is arranged best to meet the needs of each individual course.

Both of the knitting courses are very thorough, and give the student a good working knowledge of the different processes and the machinery connected with the same. The knitting department of the New Bedford Textile School contains a larger variety of knitting machinery than is found in any similar school in the United States, and the courses offered in this department cannot fail to be of very great benefit to any one desiring knowledge along these lines.



CARDING AND SPINNING DEPT., showing Railway Heads and Combers

TEXTILE ENGINEERING COURSE.

FIRST YEAR.

First Term.		Second Term.	
Subject	Hours per week	Subject	Hours per week
Mathematics,	5	Mathematics,	5
Mechanical Drawing,	7 ½	Descriptive Geometry,	7 ½
Chemistry,	6 ½	Chemistry,	6 ½
Machine Shop Practice,	7	Machine Shop Practice,	7
Textile Machinery,	6 ½	Textile Machinery,	6 ½

This course, offered this year for the first time, is arranged to be completed in three years. The schedule is given for the first year only. In addition to the requirements for entrance to the general course, applicants should be well prepared in elementary algebra and plane geometry, and it is also desirable that they shall have had training in physics. Students intending to take up this course will find it to their advantage to complete first a High School scientific course or its equivalent.

REFERENCES FROM TABULATED COURSES.

101. Pickers and Cards.

Cotton yarn mill machinery. Lists of processes in cotton mills for different numbers of yarn. Proper sequence of processes.

Objects of blending cotton. Methods of mixing same. Bale breakers.

Picker rooms. Automatic feeders. Construction of different varieties of feeders. Their capacity and suitability for the purpose intended.

The cotton opener, its use and object. Various styles of openers. Setting and adjustment of openers. Connection of feeders to openers. The various styles of trunks. Calculations in connection with openers. Breakers. Intermediate and finisher lappers. Different styles and makes of machines. Use and object of the lapper. Construction of aprons, beaters, bars, screens, fans, lap heads, evener and measuring motions, etc. The setting and adjustment of lappers. Calculations in connection with lappers.

The revolving flat card. Its principal parts described, including feed, licker, cylinder, doffer, coiler, screens and flats. Different setting arrangements. Speeds of different parts. Top flat cards, roller and clearer, and other cotton cards. Clothing, grinding, setting and stripping cards.

102. Cards and Drawing Frames.

Study of the card continued.

The railway head as used either independently or combined with sections of cards. Single and double railway heads. Eveners, draft calculations, metallic and other rolls.

Method of arranging and constructing drawing frames. The use and objects of the frame. Gearing, weighting, stop-motions, varieties of rolls, etc.

103. Roving Frames, Spinning Frames and Twisters.

Slubbers. First and second intermediates. Roving or jack frames. The construction and use of the fly frame. Description and use of the different parts. Calculations in connection therewith. Changing and fixing frames, etc.

The spinning frame. Its construction and use. Its principal parts, such as creels, rolls, rings, travellers, speeds, builder motions, etc.

The objects of twisting. Wet and dry twisting. The direction and amount of twist in different ply and cord threads; different methods used in preparing yarn for twisting. Size of

rings and travellers for different counts of yarn. Methods of winding, speeds and production.

104. Doubling and Drafting.

Figuring the number of doublings and drafts from picker to spinning frame or mule.

Calculations for schedules of machinery required for different counts and amounts. Cost and production of yarn.

Practice work consists of carrying work through picker to spinning frames.

105. Combers and Mules.

The sliver and ribbon lap machines. Construction of American and English machines. Methods of operating same. Setting and adjusting same and calculations in connection therewith.

The cotton comber. The construction of the comber, its use and objects. Comber setting. Comber calculations. Operation and management of combers.

The spinning mule and its uses. The special features of the mule. Description of the head stock, the cam shaft, mule carriage and other parts. The construction and use of each part of the mule. Different movements in the mule and the timing of the same. The copping rail and the building of a cop. Faults in mule spinning and their correction.

106.

Original work in laying out processes for different counts of yarn and carrying the same through from raw cotton to finished yarn. Tests for different processes.

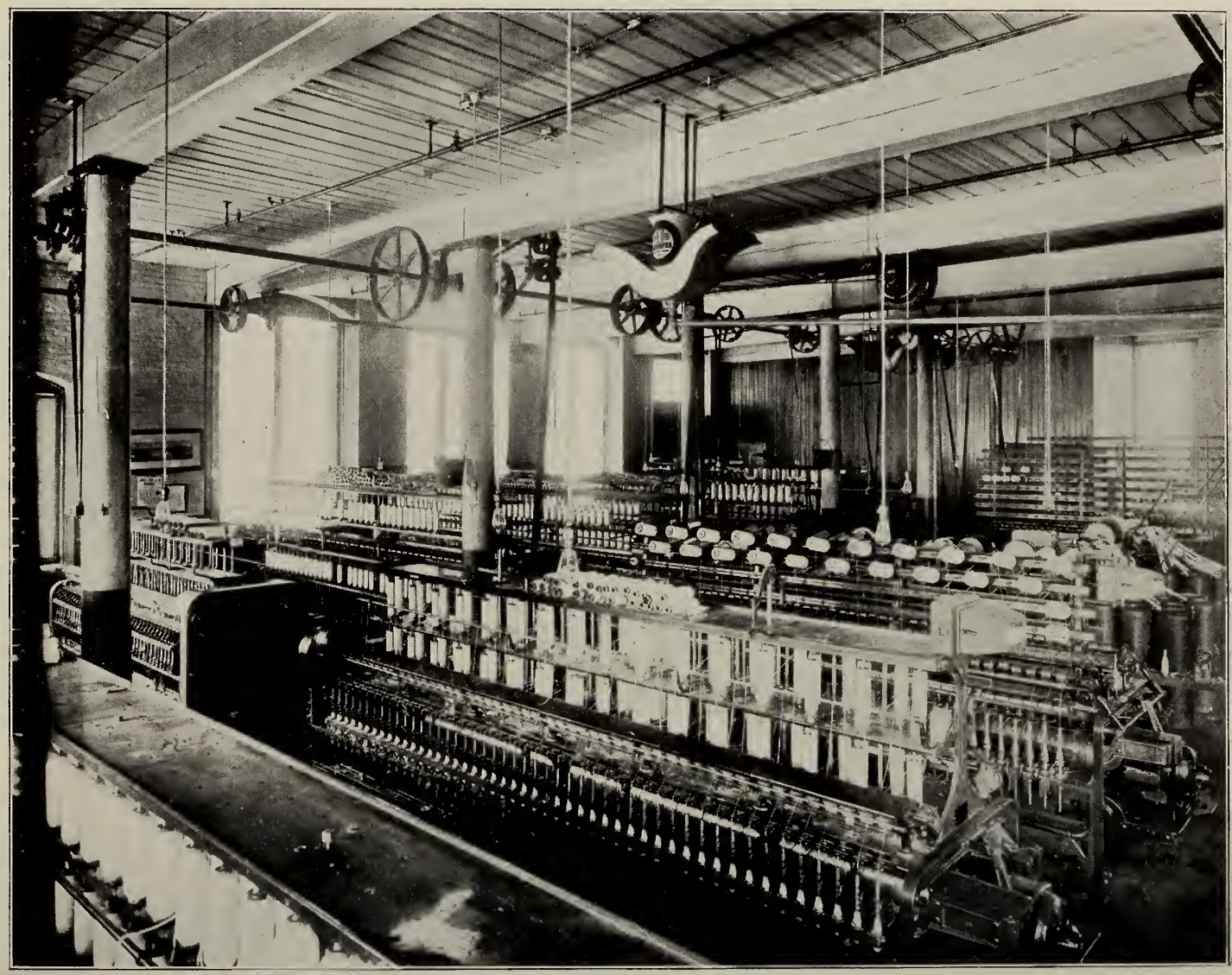
107. Raw Cotton.

Raw cotton. Its varieties. The cultivation of cotton. The preparation of cotton for the market. Cotton ginning. Cotton as an article of commerce. The selection of cotton, its suitability for different purposes.

111. Plain Looms.

The construction of the plain loom. The principal movements in weaving. Methods of shedding. Shedding motions. Shedding by cams. Auxiliary shafts. Varieties of cams. Construction of cams. Timing cams and effect on the cloth.

Picking motions. Different methods of picking. Shuttles. Shuttle boxes. Shuttle guards. Tight and loose reed looms. Protector motions. Reeds. Let-off motions. Take-up motions. Calculations in connection with take-up motions.



REFERENCES FROM TABULATED COURSES.

Filling-stop motions.

Temples. The various makes and their uses.

The Draper loom. Special features of its construction.

Automatic shuttle and bobbin changing looms.

Special features of various makes of looms, including Crompton & Knowles, Kilburn & Lincoln, Whitin, Mason and Stafford looms.

The management, operation and fixing of looms. Putting in warps. Faults and remedies in weaving and fixing. Calculations directly connected with plain looms.

Looms adapted to weave twills and satins.

Electrical and mechanical warp stop-motions.

112. Fancies.

Looms adapted to weave fancy cloth with dobbies. Dobbies with single and double cylinders. Chain pegging for dobbies.

Tying in and starting up warps for which the student has worked out some design.

113. Box Looms.

Looms for the use of various colors of filling. Drop box motions. Box chain multipliers. Multiplier motions. Still box motion.

114, 115. Special Loom Attachments.

Dobby looms combined with other motions for special purposes, such as looms adapted to weave lenos, checks, blankets, handkerchiefs, towels and other goods. Electrical and mechanical warp stop motions.

116. Jacquards.

The principle of construction of jacquards. Single and double lift jacquards. Jacquard machines with one and two cylinders. Harness lines. Lingoes. Comber boards. Tying up jacquards. Cross border and other jacquard machines.

121. Yarn Calculations.

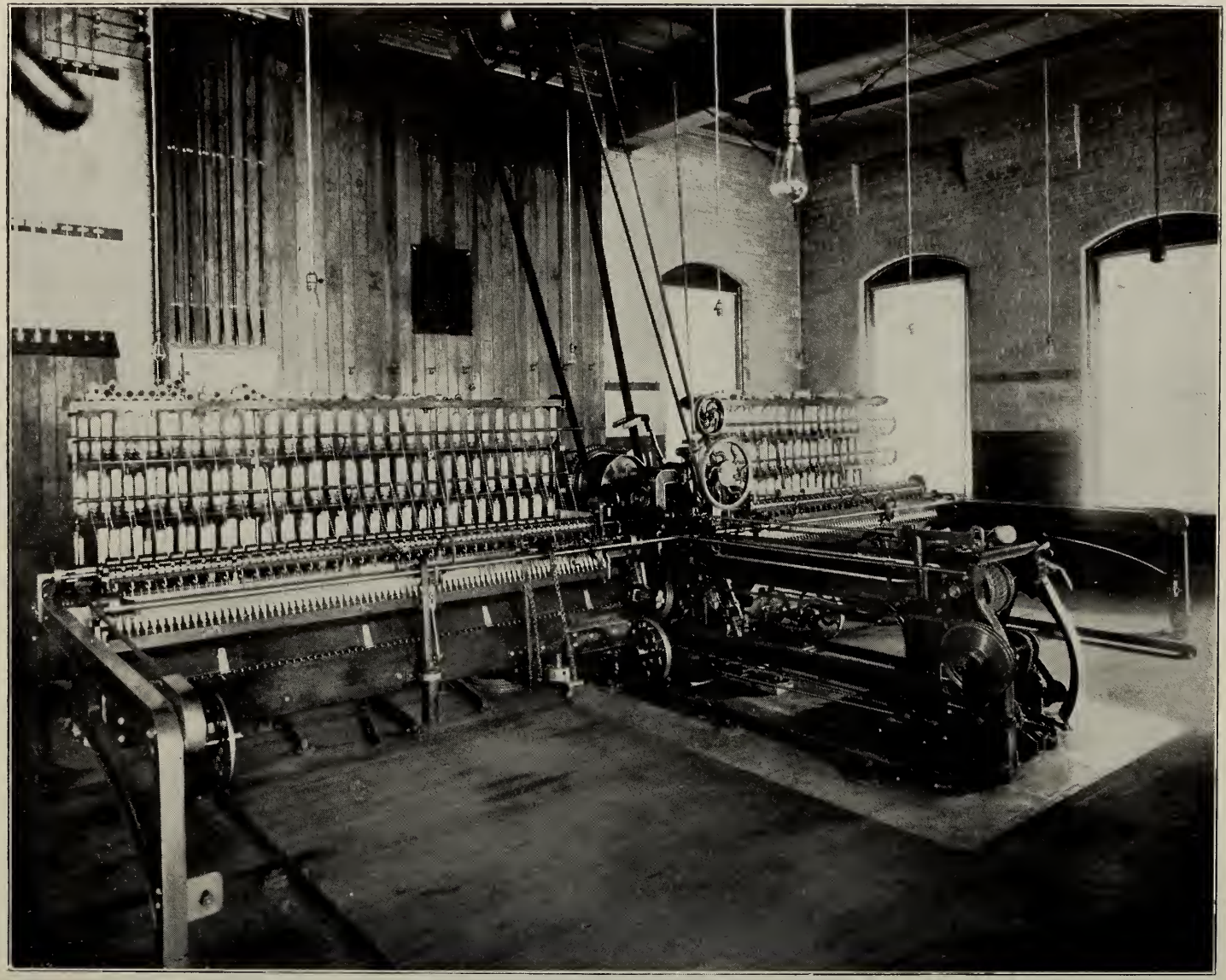
Definitions. Calculations for finding length, weight or counts of single yarns, whether cotton, woolen, worsted, silk, etc. Ply yarns.

122. Spoolers, Warpers and Slashers.

Various methods of preparing cotton warps.

The spooler, its use and construction. Production per spindle. Spindle speeds. Builder motions. Thread guides. Different makes of spoolers.

The operation and setting of the spooler.



REFERENCES FROM TABULATED COURSES.

Warpers. The object of the warper. Its construction and operations. Speeds, settings, etc. Warpers with and without cone drive. Warper slow motions. Faults in warping and their correction.

The slasher. Its use. Construction of the different parts of the slasher.

Sizing or dressing yarns. Materials used. Methods of mixing same. Suitable materials for various purposes.

Preparing the warp for the loom. The construction of reeds and harnesses.

Variations from the above system for special purposes, such as used in gingham and other mills.

131. Designing.

Definitions of the words and terms used in designing and analysis. Characteristics of the various classes of fabrics. Design paper and its application to designing and analysis. Cloth structure with a study of the various sources from which the patterns of fabrics are obtained. Twills. Wave effects. Diamonds. Sateens. Granites. Checkerboards. Rearranged Twills. Figured Twills.

132. Designing.

Elongated Twills. Entwining Twills. Curved Twills. Shaded Weaves. Stripes. Checks derived from contrasting weaves. Figured imitation welts. Figured rib or cord weaves. Spot weaves, including various systems of arrangement and ground weaves. Honey-combs. Imitation lenos.

133. Designing.

Filling backed weaves. Warp backed weaves. Double cloths. Figured double plain cloths. Ply fabrics. Embossed fabrics. Bedford cords. Box welts. Fancy piques. Figured Marseilles weaves. Figuring with extra filling. Figuring with extra warp. Reversible fabrics.

134. Designing.

Lenos. Methods of obtaining leno patterns. Mechanism and appliances necessary for the production of lenos on open shed dobbies. Yoke and Jumper motions. Weaving bottom doup patterns on top doups. Bottom and top doup lenos. Fancy one doup lenos.

Pile fabrics, such as corduroys, velvets, plush and terry towelings.

Description of lappet motions. Designing original lappet



REFERENCES FROM TABULATED COURSES.

patterns. Reproducing patterns of woven lappet samples. Chain drafts for weaves and locking motions.

135. Jacquard Designing.

Calculations required in connection with jacquard designing. How to transfer design from cloth to design paper. How to weave patterns of different sleys. Casting out. Ground weaves and rules for ascertaining sley, pick, warp and filling required. Foundations upon which jacquard patterns are based.

136. Jacquard Designing.

Sketching of original designs by the different methods principally used. Development of jacquard designs on design paper. Card cutting. Card lacing. Weaving of at least one original design.

Harness tying. Various systems of tying. Lay over, centre, and compound ties. Changing sley of fabrics. Casting out, etc.

145. Color.

Theory of colors. Complementary colors. Hue, value and chroma scales. Practical work in color scales.

146. Color.

Munsell system of coloring. Color harmony, color effects. Analyzing color effects. Practical work in making sequences and in producing colored designs.

151. Analysis.

Standard methods of representing harness and reed drafts. Methods of obtaining the best arrangement of yarns in harness drafting. Standard methods of representing chain drafts. Methods of obtaining chain drafts.

The student is required to analyze twelve samples.

152. Analysis.

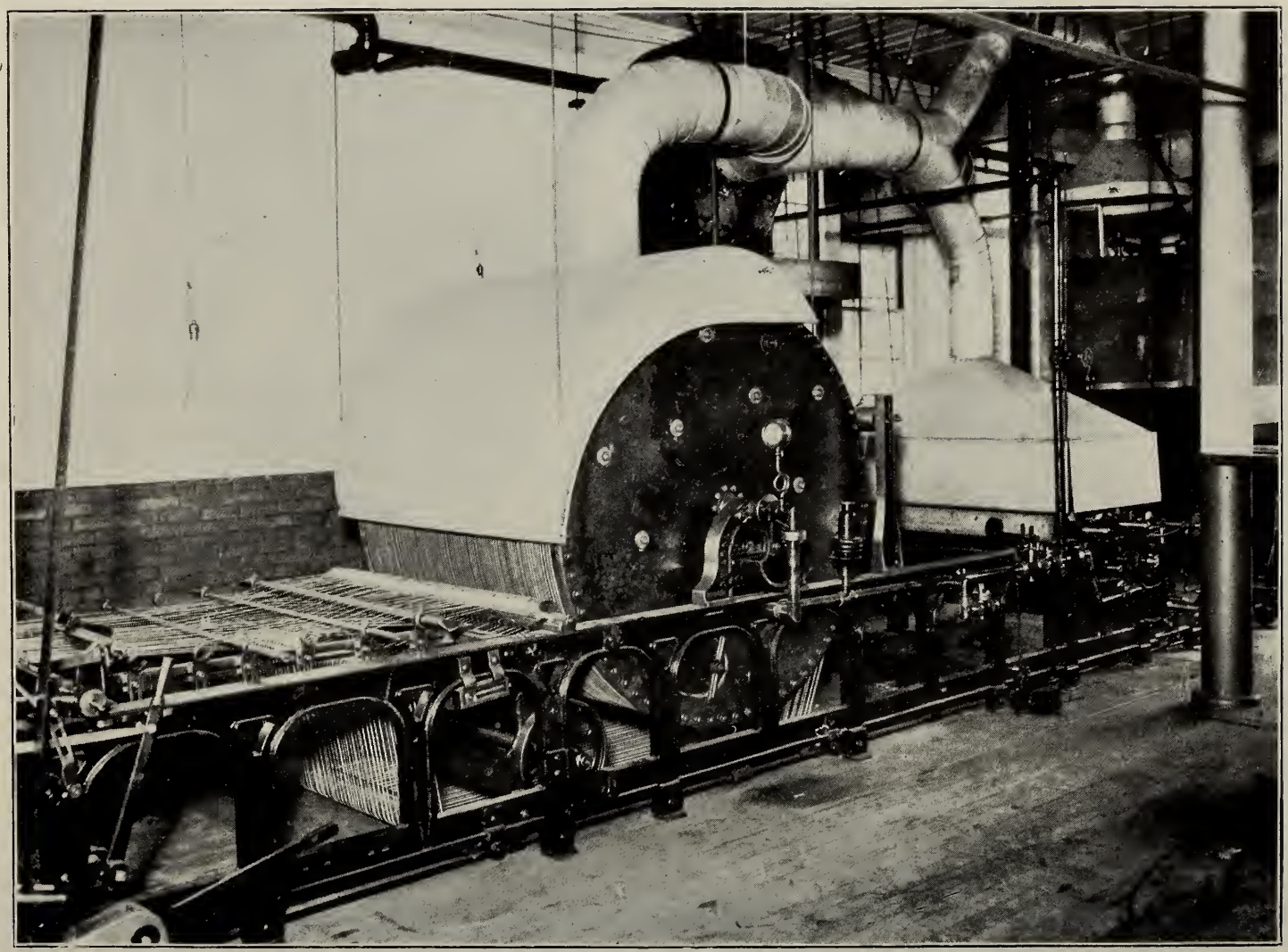
Twelve samples are given for analyzing and at least one original design must be worked out complete in every detail for the power loom.

153. Analysis.

Calculations necessary in finding production per loom per day, weavers wages, average numbers and percentages. Fourteen samples are required. Weaving of original designs.

154. Analysis.

Particular features of construction in lappets and lenos of all kinds. Fourteen samples are required. Weaving of original designs.



WARP PREPARATION DEPT. showing Slasher

REFERENCES FROM TABULATED COURSES.

155. Analysis.

Analysis of more difficult samples and original work. Fourteen samples are required; also selling price of fabrics and weaving of original fabrics.

156. Analysis.

Continuation of 155. Work on jacquard patterns. Eight samples required in addition to jacquard sample.

157. Commission House Work.

Study of fabrics, known as Standard goods, such as prints, percales, satins, lawns, organdies, chambrays, voiles, etc.

Figuring to obtain material for the reproduction of cloths of standard construction.

Methods of ascertaining counts of warp and filling, also sley and pick for new fabrics.

Determining the manufacturing cost of fabrics.

161. Hand Loom.

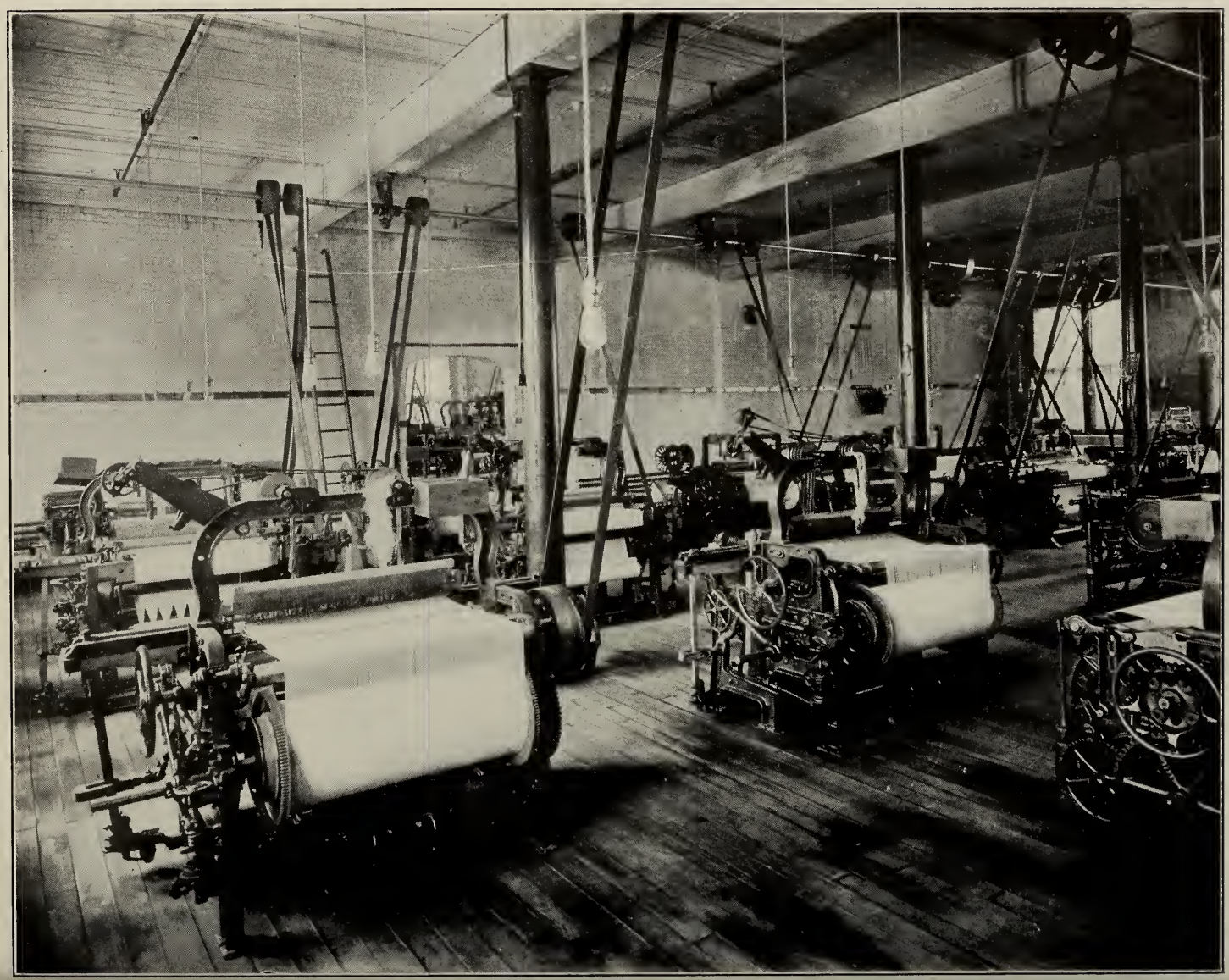
The hand loom, its construction and use. Harness drafts as affecting the weave. Building harness chains. Practice on the hand loom in weaving fabrics from original and other designs and putting into practice the designing lessons.

171. Mechanics.

The fundamental principles of mechanics and physics, with special reference to practical uses in textile machinery and to future application in the engineering courses, are given in a series of lectures. Practical problems illustrating these principles are worked out in the class-room. A study is also made of the strength and nature of the different materials used in machine construction.

172. Mechanical Drawing.

The object of this course in mechanical drawing is to give the student a good foundation for reading drawings and for making such sketches and drawings as he will be likely to be called on to make in practice. Thoroughness, accuracy, and neatness are insisted upon throughout the course. The work in mechanical drawing begins with instruction in the use and care of drawing instruments. The following is a general outline of the work to be covered: Plain lettering, geometrical constructions, orthographic and isometric projection, inking and tracing, standards, conventions and tabulation as used in the modern drafting room. Simple working drawings are to be made to scale and the final work of the year consists of



free-hand sketching of machine details from parts of textile machinery. This brings into use at one time all the work covered during the year and serves as a test of the student's grasp of the subject.

Text Book:—Blessing and Darling's "Elements of Drawing."

173. Mechanism.

In view of the large number of mechanisms used in textile machinery this course is a very important one. The subject is given by means of lectures and recitations, the work in the drawing-room being closely related to the class-room instruction. This course includes studies and graphical solutions of cams, gears, etc.

174. Machine Shop.

Shopwork and drawing are organized as one department for the purpose of securing close correlation of the work. Many exercises are common to the drawing-room and the shop. In the machine shop an effort is made not only to train the student manually, but also to teach him correct shop methods and practice. Carefully graded exercises are arranged to teach him the use of measuring instruments, hand tools, and then machine tools. The different measuring tools and devices with advantages, methods of use and limits of accuracy of each are considered. Each cutting tool is taken up, its cutting angles and general adjustments are described, together with the "feeds" and cutting speeds suitable for each material worked and for each machine. The course includes instruction in centering, squaring, straight and taper turning and fitting, outside and inside screw cutting, chucking, reaming, finishing and polishing, drilling, tapping, grinding, boring, planing flat and V-surfaces, filing and gear cutting, including spur, bevel, rack and worm gears.

When the student becomes proficient in handling the tools and machines he is given work in fitting and assembling, and also repair work from the other departments.

175. Machine Drawing.

Machine drawing is a continuation of the mechanical drawing of the first year and the work is dependent upon a thorough knowledge of how to apply the conventions of drawing which custom has made standard as given during the first year. The work consists of proportioning of machine details as fixed by practice, making assembly drawing from detailed sketches, and also detailing parts from assembled machines.



WEAVING DEPT. showing Fancy Weave Room

REFERENCES FROM TABULATED COURSES.

176. Steam Engineering.

A typical power plant, including the boiler, steam engine, and all necessary auxiliary apparatus such as is found in a modern cotton mill is studied in detail. Prepared outlines are discussed in lecture periods and the details supplied by the student after reading assignments in standard text and reference books. Practice is given in handling engines, apparatus and equipment in the laboratory. Exercises consist in adjusting, starting and running engines, taking and working out indicator cards, prony brake tests, pump and injector tests, etc.

Text Book:—"Elements of Steam Engineering," Spangler, Greene & Marshall.

177. Electrical Engineering.

The elementary principles of magnetism and electricity are taken up in lecture and recitation and are supplemented by laboratory exercises. Emphasis is placed on the different wiring systems and electric drives as used in mills and factories. A general study is made of a typical electrical power plant, and of the apparatus required to generate and distribute electrical energy.

Text Book:—"Essentials of Electricity," W. H. Timbie.

178. Mill Engineering.

Proficiency in this course depends on the thoroughness with which the work of the previous courses was carried on. The course consists of lectures supplemented by work in the drafting room. Problems in design, construction and equipment of mills and factories are taken up. The subject includes foundations, walls, floors, roofs, and mill construction in general. The choice of location and the methods of transmitting power are discussed. The following outline shows the scope of the course: Principles underlying the design and construction of framed structures, involving the use of wood, steel, brick, stone, concrete and reinforced concrete, methods of lighting, ventilating and protecting from fire.

179. Figuring Costs.

One hour a week, during the last term of the General Course, is devoted to methods of cost finding in a cotton mill. A complete mill is taken for an illustration, and the reports of both the expense and production are used to work with.

181. General Chemistry.

This course comprises two lectures of forty-five minutes each



DESIGNING DEPT., showing Design Class Room

and ten and one-quarter hours of laboratory work each week. The laboratory work is closely criticized by the instructor and individual effort encouraged. Careful manipulation, thoroughness in observation, accuracy in arriving at conclusions, and neatness are required of each student. The fundamental principles of the science are taught in connection with the descriptive chemistry of the elements.

No previous study of chemistry is required for admission to this course, but the instruction is so arranged that students having already spent considerable time in chemistry in other schools are given advanced work in which the knowledge already acquired is utilized.

182. General Chemistry.

The training afforded by a course in general chemistry is considered of value to all the students of the school and also lays the foundation for the subsequent course in dyeing. Hence students taking courses in the cotton or knitting departments are required to take general chemistry during the first term of the first year. This subject covers the same ground as subject 181, but in a briefer manner. Five hours per week are spent in the laboratory, and one hour in the lecture and recitation room. A few of the simpler organic compounds are also studied.

Text Book:—Morgan and Lyman's Chemistry.

183. Inorganic Preparations.

The time in this subject is devoted largely to laboratory work with an occasional explanatory lecture. First the student is taught the best methods of carrying on the usual laboratory operations, as forming of crystals, precipitates, filtering, evaporating, and drying. This is followed by the preparation of several salts and industrial products, substances being selected that are of particular interest to the textile industry. The work is progressive in subject matter and so arranged as to be coördinate with the subject of General Chemistry.

191-192. Qualitative Analysis.

This course comprises one lecture and one recitation period of three-quarters of an hour each and seven and one-quarter hours laboratory work a week during the first term of the first year. The student is taught the principle of systematic qualitative analysis and the application of the principles to detect the base forming elements, the acid forming elements, and the various classes of compounds of the bases and the acids. Espe-



cial attention is paid to the inorganic materials ordinarily met with in the manufacture, dyeing, and finishing of cotton piece goods. The student is required to analyze correctly a sufficient number of unknown substances to demonstrate his ability to detect any of the elements ordinarily met with.

Text Book:—Noyes' "Qualitative Analysis."

202. Quantitative Analysis.

This course comprises one lecture a week, the remainder of the time being devoted to laboratory practice. The first part of the term is spent in simple gravimetric determination of chlorine, sulphuric, carbonic, and phosphoric acids, and iron, aluminum, calcium and magnesium. The last part of the term is devoted to volumetric determinations involving the use of acids, alkalis, oxidizing and reducing agents, and chlorimetry. Great stress is laid on the **accuracy** and **integrity** necessary for quantitative work. Each student is required, under supervision of the instructor, to adjust his own balances and calibrate all burrettes, flasks, and pipettes he uses that he may understand the nature and amount of error in his work, thus giving him confidence in his results. In connection with this course, a thorough training in the solution of chemical problems is given. The use of reference books is encouraged and each student is trained to consider each original analysis from the various points of view possible.

Text Book:—Talbot's "Quantitative Analysis."

212. Organic Chemistry.

This course is divided into two terms, the first term giving a general survey of the subject, a thorough training being given in the reactions and properties of the various compounds met with in textile industries. The two lower members of the paraffines and their derivatives are exhaustively treated. Then the study of the higher members is taken up, the unsaturated hydro-carbons and their derivatives, especial attention being given to the members met with in the artificial dye-stuffs.

Text Book:—Remsen's "Organic Chemistry."

213. Organic Chemistry.

The work of the second term is devoted exclusively to the study of dye-stuffs and their preparation. The constitutions of various typical dye-stuffs are studied to determine their influence on coloring power, dyeing properties, and fastness to light, acids, alkalis, bleaching, etc. In the limited time af-



forded, the number of dye-stuffs studied is necessarily limited but the training is made so thorough that the student is enabled to take up further investigation intelligently should his future work demand it.

222. Textile Chemistry and Dyeing.

These subjects open with a study of the chemical and physical technology of the fibres. Lectures are given descriptive of the action of heat, moisture, acids, alkalis, oxidizing agents, reducing agents, salts, organic ferments, and coloring matter upon the fibres. Parallel with these lectures laboratory experiments are carried out by the performance of which the student becomes familiar with the chemical and physical properties of the various fibres and the actions of the several agents upon them.

This is followed by a series of lectures and experiments that illustrate the application of the above principles to practice. The student is taught how to scour cotton, wool, and silk; how to bleach these fibres by the use of sulphur dioxide, chlorine compounds, and oxygen compounds. The mercerizing, fire, and water proofing of cotton, the chlorination of wool, and the water proofing of silk are also demonstrated.

Now the application of the dyestuffs to the various fibres is studied. For convenience, the dyestuffs, whether of natural or synthetic origin, are classed as either substantive, acid, basic, or mordant. The best method of application of each of the above groups is then taught. The dyed fibres are tested for their fastness to light, water, acid, alkalis, milling, stoving, chloring, crocking, and hot finishing. Modified chloring, crocking, and hot finishing. Modified methods are then considered for the production of especial degrees of fastness to certain agents by after-treating of the dyed fibres.

223. Dyeing.

This course is supplementary to the course in Textile Chemistry and Dyeing and consists principally of the study of the various methods of applying dyestuffs, the properties of which so differ that a modified method of application is required. Under this head are treated the developed, sulphur, vat, acid afterchromed, chromotrop, eosine, alkali blue, rhodamine, janus, polyhuic mordant, and pigment dyes. Further, the properties of the dyed fibres and the value of each dyestuff for a specific purpose are studied.

At the end of the course the general principles of cotton

matching are taken up and experimental work carried on, demonstrating the proper method of obtaining a given shade by mixing of several dyes. Obtaining the value of a dye is taught, and the detection of adulterants. Finally, methods for determining the dye either in the form of a dyestuff or on the dyed fabric are considered.

The lectures during this term are mainly descriptive of the converting of grey cotton piece goods into the finished state. Machinery used in connection with the processes of singeing, bleaching, scouring, mercerizing, drying, mangling, dyeing, starching, tentering, and calendering is explained. The effect of each machine upon the properties of the fabric is studied. Some time is devoted to the consideration of the use of starches, filling agents, soap, and oil, and the filling, softening, and stiffening action they produce. The student is required to take notes during these lectures, and from such notes write for his own reference a complete text on the subject. In this connection he is encouraged to consult various standard works to amplify his knowledge of textiles.

Samples acquired in connection with the laboratory practice are mounted and bound with the above notes, which they serve to illustrate.

224. Dyeing.

The laboratory work of this term is mainly devoted to the printing of textile fabrics, especial emphasis being laid on cotton. The theory and practice of the various styles such as the pigment style, the direct printing style, the steam style or metallic or tannin mordants, resist and discharge dye styles, the developed azo style, the printing of indigo and similar dyestuffs and aniline black are studied. The student makes as many different prints as the time will allow. The course is concluded by experiments illustrating the practice of mercerizing cotton fabrics and a study of the various functions of the various stiffening and softening agents used to produce the various finishes required by the trade. The lecture course during this term covers practically the same ground as the laboratory work, especial emphasis being laid on the mercerizing and finishing of cotton yarns and cloth. During the entire course the student accumulates several thousand samples which he is required to mount in a specially designed sample book for his reference in the future. Special stress is laid on quality rather than quantity of work done. As often as time permits and circumstances demand it, lots of yarn, hosiery,

etc., of commercial size, are dyed by the students for other departments.

225. Dyeing.

Construction and operation of jiggers. Speed of operation. Penetration of solutions used. Selection of dyestuff. Preparation of dye liquor. Dyeing, washing and aftertreating.

Construction of dye padders. Selection of materials for rolls. Speed of machines. Penetration of materials. Selection of dyestuffs. Washing off. Aftertreatment.

226. Dyeing of Knit Goods.

The object of this course is to give the student an opportunity to dye commercial size lots of knit goods and hosiery. Lectures describing the various processes are given and the necessary calculations are taught in connection with this course. Scouring and bleaching are also taught. The student is required to make use of knowledge acquired in the previous courses in dyeing.

233. Textile Chemistry—I.

This subject comprises a study of the properties and analysis of water, coal, oil, soap, mordants, and other chemicals used in the textile industries. One lecture of forty-five minutes' duration is given each week and frequent conferences are held with the student in the laboratory. The student is required constantly to consult standard books of reference in connection with his laboratory work. While the limited time devoted to this course does not give enough time for the student to make many complete analyses, it does illustrate to him the application of the knowledge acquired in the previous subjects of qualitative, quantitative analysis, and organic chemistry.

234. Textile Chemistry—II.

This subject deals with starches, sizing, and softening compounds, and textile fabrics. The commercial methods of obtaining the above substances, their usual composition and application, is discussed in lectures. The laboratory work consists of the analysis of typical compounds, obtained from the consumers when possible. The detection of the various starches and fibres by the microscope is taught, and their separation and estimation by chemical methods. Sizing and loading of fabrics is also discussed. This course is very practical in its application, and accurate work is required.

REFERENCES FROM TABULATED COURSES.

235. Finishing of Cotton Fabrics.

The object of this course is to give to the designer a knowledge of the various methods used in finishing and the effect of the same on the appearance and construction of the fabric. Simple methods of distinguishing between different fibres and finishes, filled and pure starched cloths, are taught. The instruction is given by means of one lecture a week and two hours laboratory practice.

240. Singeing.

Construction of machine. Function of air pump. Adjustment of gas. Speed of operation. Singeing for a face finish. Singeing for a body finish. Determination of best conditions for a particular cloth.

241. Scouring.

Construction of kiers. Methods of circulation. Packing of goods. Time of boiling. Washing down. Use and operation of washing machines. Choice of scouring agent.

242. Bleaching.

Construction of chemic vats and cisterns. Application of bleaching solution to the goods. Squeezers. Piling down. Precautions to prevent tendering action of bleaching agent. Washing. Use of "Antichlors." Openers and scutchers. Selection of bleaching agent.

245. Mercerizing.

Construction of mercerizing machine. Design of tenter clips. Proper tension in tenter frame. Removal of caustic by washing. Neutralization of last traces. Selecting of mercerizing agent. Variation in conditions to suit cloth treated.

250. Drying.

Preparation of goods for drying. Importance of proper mangling. Construction and operation of a mangle. Construction of the drying cylinders. Mechanical limits of speed of operation. Best speed in view of results obtained on goods. Static electricity and its grounding.

Construction and use of tenter frames. Methods of heating, direct and indirect. Direction of air currents in relation to that of the cloth. Conditions giving the most rapid drying, the best width. Choice of tenter clip for a specific purpose.

255. Calendering.

Types of calenders and various finishes obtained. Construction of a simple calender, friction calender, chasing calender,

Schreiner, and embossing calenders. Speeds and conditions governing the operation of the above machines. Use of scrimp bars and stretchers. Gas and steam heating. Metallic rolls, fibrous rolls, and finishes produced by them. Care of rolls. Use of water. So-called permanent calender finishes. Use of beetles and hot presses for preparation for calendering. Top finishing.

260. Putting up.

Inspection of goods for faults. Classing as firsts, seconds, thirds and remnants. Yarding by flat folding, by rolling machines. Construction and operation of these machines. Various folds and put-up required by the several trades. Ticketing, banding, and papering. Assortment in cases and storage of goods.

269. Thesis.

Each student who is to graduate from the course in chemistry and dyeing must devote twelve hours per week during the last half of his third year to original work, and at least one week before graduation must submit to the principal of the department a thesis of not less than two thousand words based upon the results of his own investigations.

271. Winding and Rib Top Knitting.

Winding and preparation of cotton, lisle, wool, worsted and silk yarns for running on rib top, rib leg and hosiery knitting machines.

Construction of circular rib top knitting machines, principle of circular latch needle knitting, setting and adjusting of different makes of machines.

Rib top knitting on twelve, eighteen, twenty-four, thirty, thirty-six and forty-two gauge needle machines, with cotton, lisle, wool, worsted and silk yarn.

272. Rib Leg Knitting.

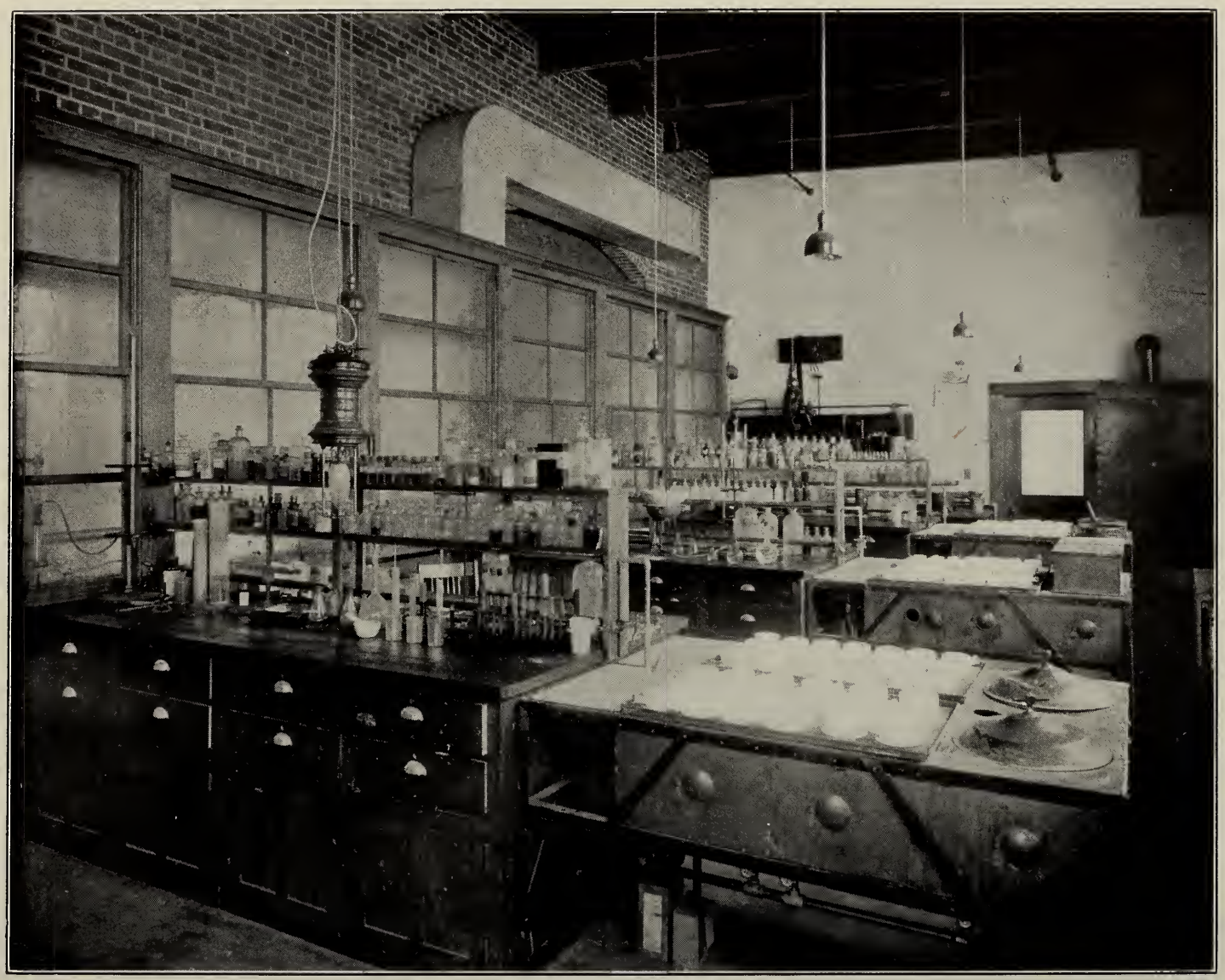
Rib leg machines, with knee and ankle splicer, chain and chainless measuring devices.

Rib leg knitting. Different classes of ribs, lace effects, spliced knee and ankle, for children's, boys' and misses' stockings.

Plaiting. Silk yarn on cotton and worsted yarn; also worsted on cotton yarn, for rib tops and rib legs.

273. Hosiery Knitting.

Principle of latch needle seamless hosiery knitting. Con-



CHEMISTRY AND DYEING DEPT., showing Experimental Chemical Laboratory

struction, setting and adjusting of three-quarter, seven-eighth and full automatic hosiery machines.

Knitting on three-quarter automatic hosiery machines, cotton and wool stockings, fine split sole, hose and half hose.

Seven-eighth automatic hosiery machine, medium and fine gauge hose and half hose.

Knitting men's half hose, ladies' hose; footing children's, boys', and misses' rib legs. White feet and black legs ladies' stockings, double sole, reinforced heel and toe; plaited hose and half hose with white heel and toe, fancy lace effects, on full automatic hosiery machines.

274. Hosiery Finishing.

Hemming and embroidering stockings. Looping, mending and singeing. Boarding, drying and pressing. Inspecting, pairing, stamping, folding and boxing, keeping stock and handling boxed goods.

Method of handling and keeping track of goods through the mill.

Cost of manufacturing different classes of seamless hosiery from yarn to box.

281. Winding and Knitting Cuffs and Sleeves.

Winding and preparation of the different classes of yarns used in the knitting of underwear.

Construction of circular latch needle rib cuff machines, two feed automatic tuck and plain sleevers, with slack course and welt attachments; the principle of plain and tuck stitch knitting.

282. Underwear Knitting.

Knit to shape ladies' underwear on latch needle circular rib body machines, different principles of this class of knitting. Construction and adjustment of the machines to knit cotton, lisle, worsted and silk yarns; different methods of plaiting on these machines.

283. Underwear Knitting.

Knitting plain 1 & 1 cloth for cut to shape union suits and fancy rib cloth for ladies' underwear on plain latch needle body machine.

Latch needle, balbriggan, plain web knitting for plain and fancy stripes, in light weight underwear.

Rib cuff and shirt borders knitting on circular latch needle rib border and cuff machinery.



CHEMISTRY AND DYEING DEPT.—for Stock Rooms and Special Testing Apparatus

REFERENCES FROM TABULATED COURSES.

Spring needle circular rib knitting. A new principle of knitting extra fine cloth for underwear.

284. Underwear Finishing.

Cutting men's shirts and drawers, ladies' vests, infants' wrappers, children's, boys' and misses' vests and union suits.

Looping, seaming and finishing of underwear in detail.

Fixing and adjusting of the principal styles and makes of sewing machines used in the manufacture of underwear.

Method of handling the goods in process of manufacture from yarn to box.

293. Miscellaneous Knitting.

Knitting fine French balbriggan cloth, worsted and merino cloth, single and double plush cloth, for fleeced lined underwear, made on spring needle frame.

Sweater knitting, with racked rib and cuffs, pineapple stitch and fancy colored effects on circular rib machines.

Full fashion sweater knitting on the Lamb full fashion hand power machine.

Knitting golf gloves on the Lamb hand power machine.

Different processes of finishing balbriggan, worsted, merino and fleeced cloth, into underwear ready for market.

294. Knitting (optional to third year general students).

To those students of the General Course who desire some information on knitting machinery, the school offers this option during the last year. The aim of this work is to give to the student an insight into the class of work for which a large part of the yarn in a yarn mill is made.

The different types of knitting machines are studied, and in each case, the effect upon the machine and fabric of imperfect yarn is gone into carefully.



TEXT BOOKS AND LECTURE SHEETS USED IN THE SCHOOL.

Chemistry Department.

Morgan and Lyman's Chemistry, Noyes' Qualitative Analysis, Talbot's Quantitative Analysis, Remsen's Organic Chemistry, Blanchard's Synthetic Inorganic Chemistry.

Engineering Department.

Blessing & Darling's Elements of Drawing, Spangler, Greene and Marshall's Elements of Steam Engineering, W. H. Timbie's Essentials of Electricity.

Other Departments.

No text books are used in the departments other than those named above. Lectures are prepared by the heads of the departments covering the work in detail, multigraphed, and sold to the students at cost. These with design books, design pads, and note books constitute the working material to be provided by students.



EVENING CLASSES.

Evening instruction, similar to the day, on the same machinery and by the heads of the day departments assisted by practical skilled men from the mills, is given for the benefit of workers in local mills and machine shops. The instruction in the evening classes is divided into sections so as to give the greatest possible facilities to the students in these classes.

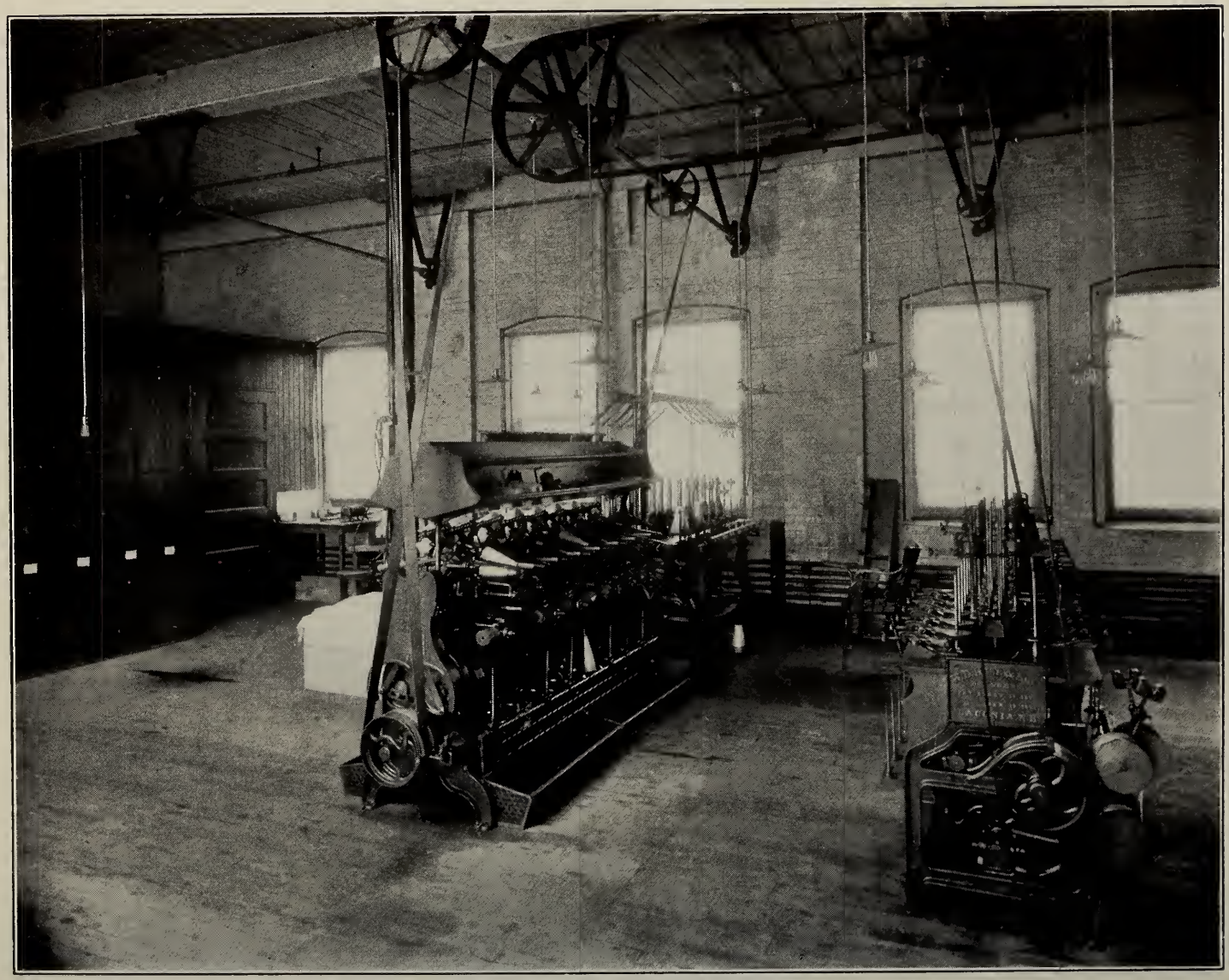
Certificates are granted to all students in the evening classes who have successfully completed the equivalent to two years' work, two evenings a week. The certificate states the subjects that the student has passed in and the length of time he has devoted to the work.

Evening students are enrolled at the commencement of both the fall and spring terms. The subjects taken up in the different evening courses follow the detailed topics as specified on pages 36-65.

Students enrolling in the regular chemistry or dyeing courses are required to make a deposit of $5.00 for breakage. In case the breakage caused by any student does not equal the amount of his deposit, the balance is returned to him at the end of the school year.

The school is in session four evenings a week for twenty-six weeks,—Monday, Tuesday, Thursday and Friday, from 7.30 to 9.15 for all classes except those taking the chemistry and dyeing courses. Those classes are held two nights a week from 7.00 to 10.30.

For terms of admission see page 77 of this catalogue.



KNITTING DEPT., showing Winders

COURSES OF INSTRUCTION, EVENING CLASSES.

Carding and Spinning Department.

Picking and Carding—one term, two evenings a week.

Advanced Picking and Carding—one term, one evening a week.

Drawing and Roving Frames—one term, two evenings a week.

Advanced Drawing and Roving Frames—one term, one evening a week.

Ring Spinning and Twisting—one term, two evenings a week.

Mule Spinning—one term, two evenings a week.

Cotton Sampling—one term, two evenings a week.

Advanced Calculations in Carding and Spinning—one term, two evenings a week.

Weaving and Warp Preparation Departments.

Spooling, Warping and Slashing—one term, two evenings a week.

Plain Loom Fixing—one term, two evenings a week.

Fancy Loom Fixing—one term, two evenings a week.

French, Portuguese and Polish Classes in Loom Fixing.

Advanced Calculations in Weaving—one term, two evenings a week.

Designing Department.

Elementary Designing—one term, two evenings a week.

Advanced Designing—one term, two evenings a week.

Elementary Analysis—one term, two evenings a week.

Advanced Analysis—one term, two evenings a week.

Jacquard Designing—one term, two evenings a week.



TEXTILE ENGINEERING DEPT., showing Mechanical Drafting Room

Knitting Department.

Special Knitting—two evenings a week each term.

Engineering Department.

Mechanical Drawing—one year, two evenings a week.

Machine Drawing—one year, two evenings a week.

Descriptive Geometry—one term, two evenings a week.

General Engineering Drawing—one term, two evenings a week.

Machine Shop Practice—one year, two evenings a week.

Advanced Shop Work—one year, two evenings a week.

Steam Engineering, Boilers—one term, one evening a week.

Steam Engineering, Engines—one term, one evening a week.

Electrical Engineering, Elementary Electricity—one term, two evenings a week.

Electrical Engineering, Direct Current Machinery—one term, one evening a week.

Electrical Engineering, Alternating Current Machinery—one term, one evening a week.

Chemistry Department.

General Chemistry—one year, two evenings a week.

Qualitative Analysis—one year, two evenings a week.

Quantitative Analysis—one year, two evenings a week.

Organic Chemistry—one year, two evenings a week.

Textile Chemistry I—one year, two evenings a week.

Textile Chemistry II—one year, two evenings a week.

Dyeing I—one year, two evenings a week.

Dyeing II—one year, two evenings a week.

Dyeing III—one year, two evenings a week.



Mathematics.

Cost Finding—One term one evening a week.
Arithmetic—one term, two evenings a week.
Mill Calculations—one term, two evenings a week.

Evening Diploma Courses.

The school diploma will be granted to those students of the evening classes who successfully complete the work specified under the following courses:

I. Carding and Spinning:

Picking and Carding, Drawing and Roving Frames, Combing, Ring Spinning and Twisting, Mule Spinning, Cotton Sampling, Advanced Calculations in Carding and Spinning, Mechanical Drawing, Advanced Drawing.

II. Weaving and Designing:

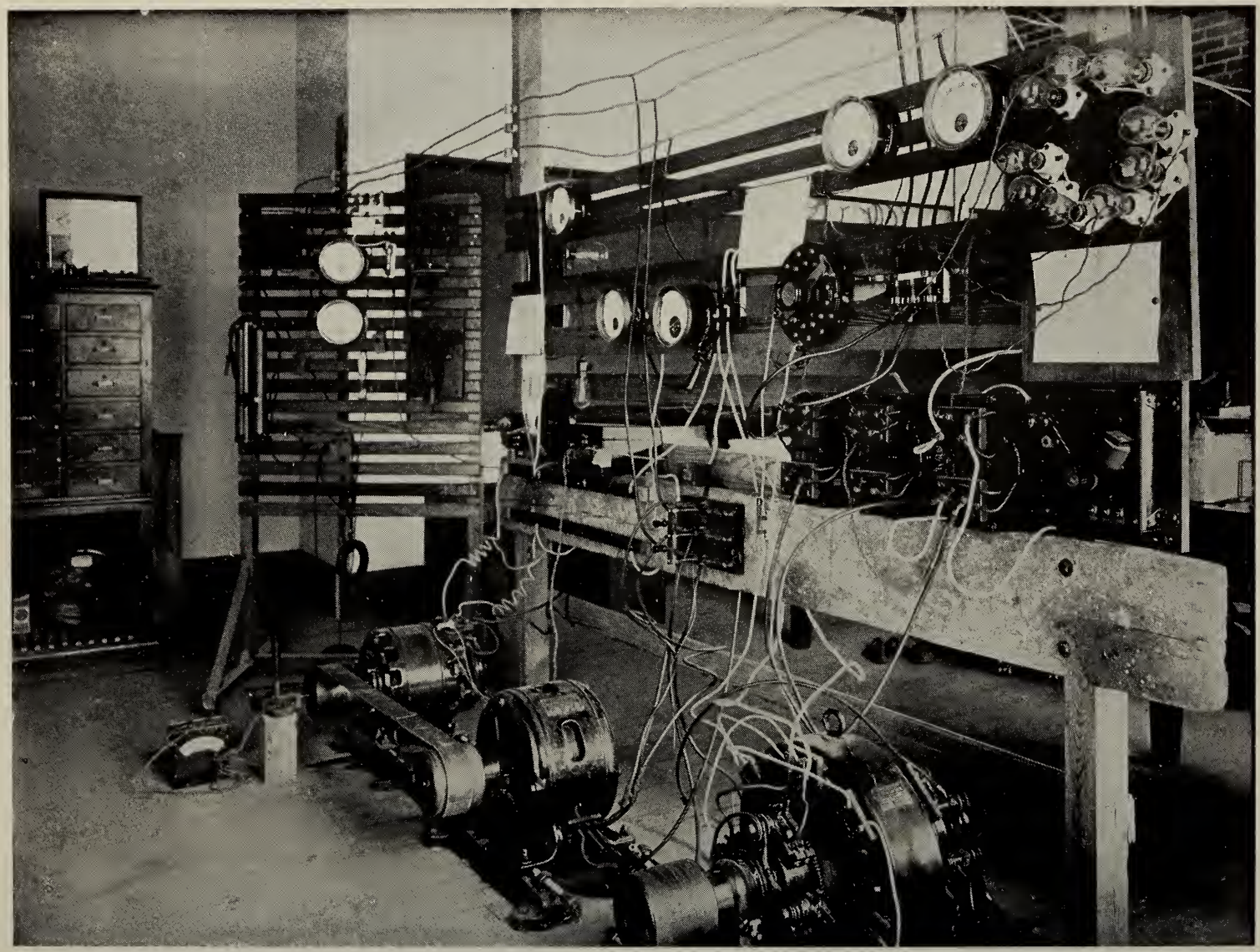
Spooling, Warping and Slashing, Plain Weaving and Fixing, Fancy Weaving and Fixing, Elementary Designing and Cloth Construction, Advanced Designing and Cloth Construction, Jacquard Designing, Cotton Sampling, Mechanical Drawing, Advanced Drawing.

III. Chemistry and Dyeing:

General Chemistry, Qualitative Analysis, Quantitative Analysis, Organic Chemistry, Textile Chemistry I, Textile Chemistry II, Dyeing I, Dyeing II, Dyeing III, Mechanical Drawing, Advanced Drawing.

Women.

The designing of textile fabrics is an occupation that offers many inducements to women and is also one that is constantly widening. The designing courses offered by the New Bedford Textile School are open to all women and the same advantage extended as in the case of men.



ELECTRICAL LABORATORY

GENERAL INFORMATION.

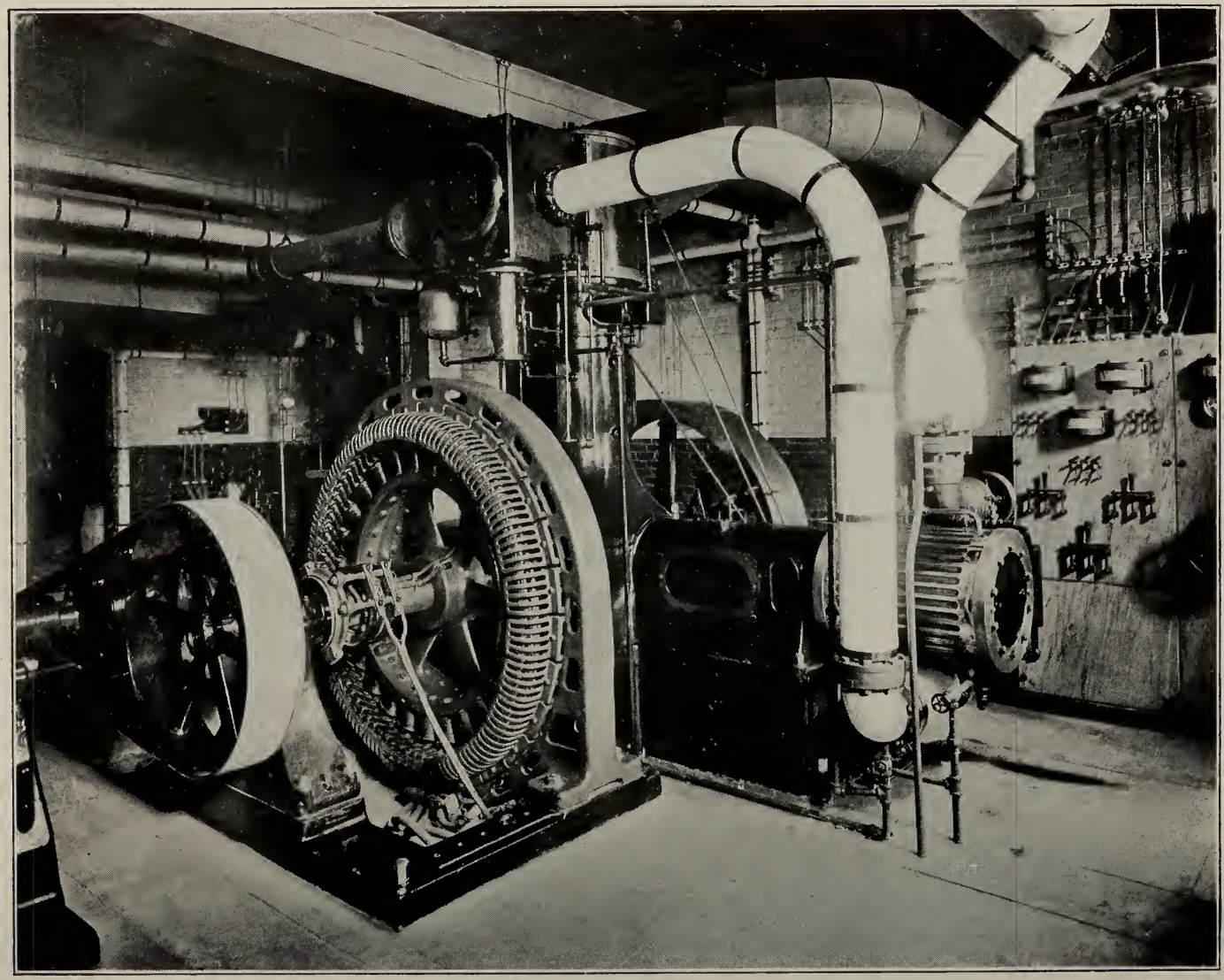
CONDITIONS OF ADMISSION TO DAY CLASSES.

Candidates for admission to the regular day courses must be at least *sixteen* years of age. Those who have been students of other technical institutions, colleges, or universities are required to furnish a certificate of honorable dismissal from those institutions. Candidates having a graduate's certificate from a high school or other educational institution of equal standing are admitted without examination. Other applicants for admission to courses other than the Chemistry and Dyeing Course and the Textile Engineering Course are required to undergo examinations in arithmetic, English, and commercial geography. Candidates for these two courses are required to pass examination in elementary algebra and plane geometry.

All candidates, whether desiring to be enrolled on certificate or by passing the entrance examination must fill out an application blank, which should be delivered at the school as early as possible before the opening of the year.

Applicants desiring to take up special studies in the school may be admitted provided their applications are approved by the Managing Director. Such students shall be known as specials and, upon satisfactory completion of their work in the school, shall be given certificates stating the work they have covered and the time they have been in attendance.

No applicant is admitted to the regular courses of the school after the first four weeks unless he has already covered the work of the school for the time preceding the date of his application; nor shall any change in any student's course be made after the first four weeks of admission except by permission of the Managing Director.



ENGINE ROOM

Entrance Examinations for Day Students.

The examinations for those desiring to enter the school at the opening of the fall term of 1916 will be held at the school only, on Thursday, June 15, and on Friday, Sept. 8, at 9 a. m.

The detailed topics dealt with in the entrance examinations are as follows:

ARITHMETIC.

Definitions, addition, subtraction, multiplication, division, factors, multiples, cancellation, fractions, decimals, percentage, interest, ratio and proportion, square root, compound quantities, mensuration, metric system.

ENGLISH.

The candidate will be required to show his ability to spell, capitalize, and punctuate correctly; to show a practical knowledge of the essentials of English grammar, a good training in the construction of the sentence, and familiarity with the simple principles of paragraph division and structure.

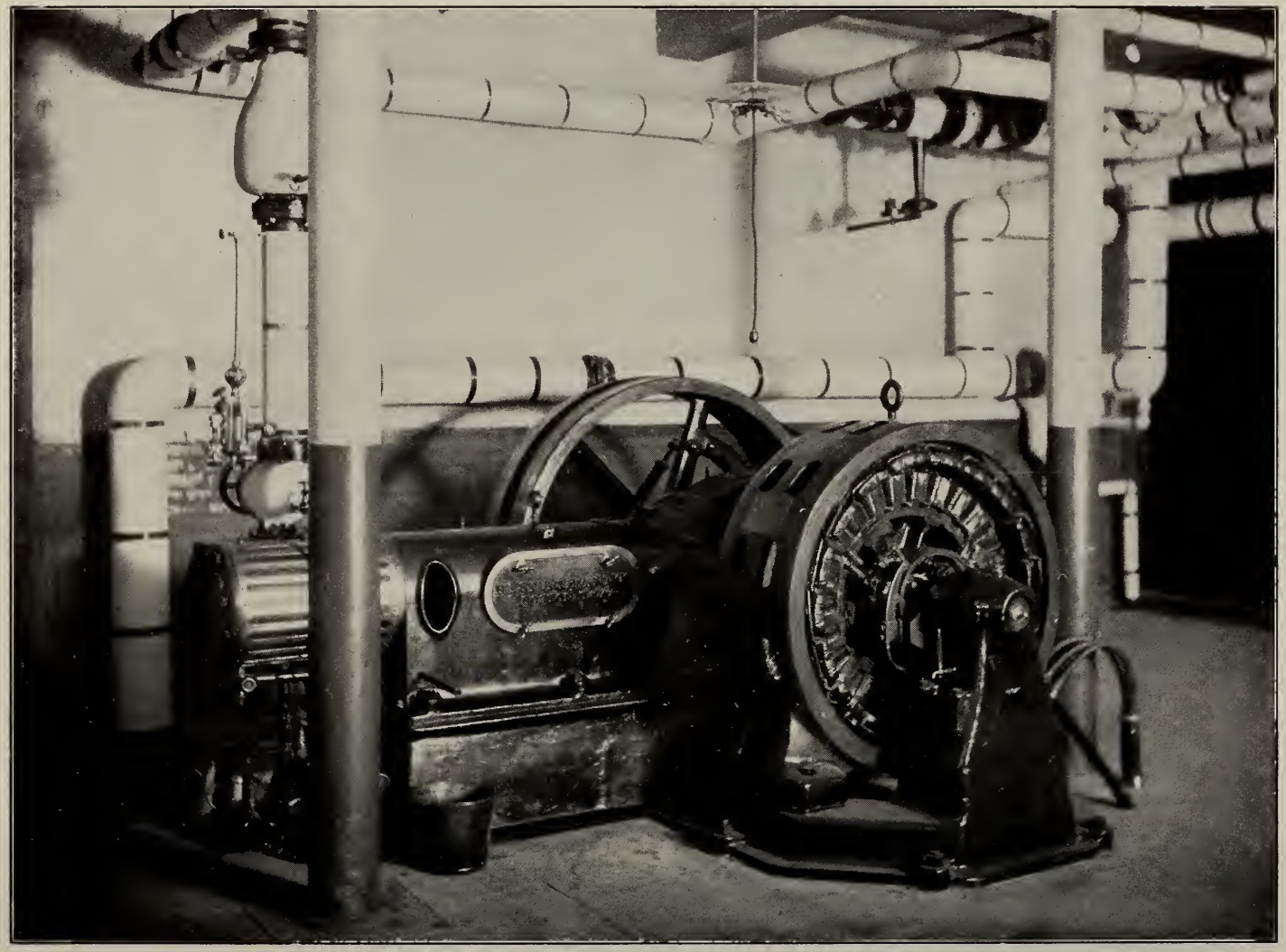
He will be required to write a business letter, and one or more short articles on subjects assigned from which he may select. Ability to express himself clearly and accurately will be considered of prime importance.

COMMERCIAL GEOGRAPHY.

Farm products of the United States, where raised; our mines, and where located; our manufactures, and where established; our exports, and to what countries; our imports, and from what countries; our transportation facilities.

CONDITIONS OF ADMISSION TO EVENING CLASSES.

Candidates for admission to the evening classes must be at least fourteen years of age and must satisfy the head of the department which they desire to enter that they have sufficient knowledge to be benefited by the instruction offered.



ENGINE ROOM

Showing 50 K. W. Westinghouse Generator, direct connected to a 70 H. P. Sturtevant Engine

FEES.

Day Students: No tuition fee is charged day students who are residents of Massachusetts. For students, who come from outside the State of Massachusetts, the fee is $150.00 a year, payable in advance in two equal installments in September and January. No student shall be admitted to the classes until his tuition is paid. No fees are refunded except by special action of the Executive Committee of the Board of Directors.

The above fee includes admission to any of the evening classes in which there is accommodation and which the day students may desire to attend.

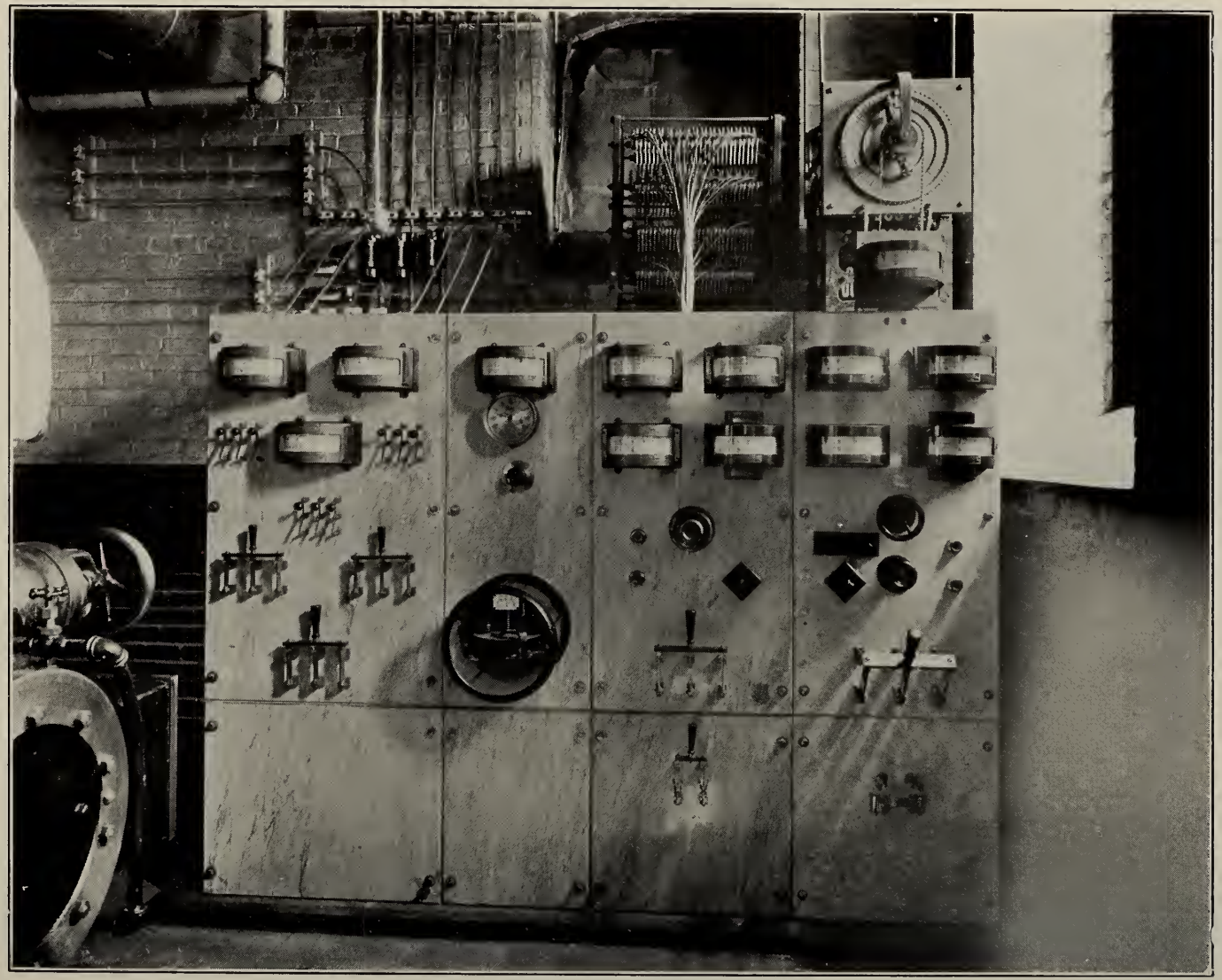
A deposit of $10.00 is required of all day students taking the regular Chemistry and Dyeing Course. A deposit of $5.00 is required of students taking chemistry in connection with any other course. This deposit covers cost of any breakage that may occur. Any unexpended balance is returned at the end of the year. To students coming from outside the State of Massachusetts a further charge of $10.00 for chemicals is made.

Students are required to supply themselves with such books, tools and materials as are recommended by the school, and pay for any breakage or damage that they may cause in addition to the above named fee.

Evening Students: No tuition fee is charged evening students. Students enrolled in the chemistry or dyeing courses are required to make a deposit of $5.00 for breakage. In case the breakage caused by any student does not equal the amount of his deposit, the balance is returned to him at the close of the school year. Evening students are required to supply themselves with such books and materials as are recommended by the school, but this charge is small.

SCHOOL HOURS.

The school hours for the day classes are from 8.30 to 12 each morning excepting Saturdays with afternoon sessions from 1.30 to 4.30 except Saturdays. For sessions of evening classes see page 67.



ENGINE ROOM, showing Switchboard

EXAMINATIONS, CERTIFICATES AND DIPLOMAS.

Examinations are held quarterly for tests of the student's work.

The final examination is held at the end of the spring term. Results of these examinations, together with the student's marks recorded from recitations, practical demonstrations, and student's books are taken into account in ranking students at the end of each year, and for graduation. Unsatisfactory progress necessitates the student repeating his studies.

Diplomas are given on the satisfactory completion of a course of study extending over a period of three years in connection with each course, if the student's record is otherwise satisfactory.

Students taking special courses, in most cases, are entitled to a certificate if they honorably and satisfactorily complete the course of instruction scheduled.

Day students are required to spend as much time daily out of school hours in study, such as recording lectures and other notes, as may be necessary to maintain proper standing. The students' books are examined by the instructors periodically, and the care and accuracy with which they are kept is considered in ranking students.

CONDUCT.

Students are required to conduct themselves in an orderly and gentlemanly manner while in attendance at the school. When the conduct of any student is considered by the Managing Director of the school detrimental to its best interests, he will be suspended by him and the case reported to the Executive Committee for action.

Any student who presents at any time work as his own which he has not performed, or tries to pass an examination by dishonorable means, shall be regarded as having committed a serious offence.

Students shall exercise due care in the use of the school apparatus and machinery. All breakages and accidents must be reported at once to the instructor in

charge and the student will be held liable for any wilful damage or the result of gross carelessness.

ATTENDANCE.

Day students taking the regular courses are required to attend every exercise of the school; special students, every exercise called for by their schedules. For every case of absence or tardiness, students must present an excuse to the Managing Director. A certain number of unsatisfactory excuses will render the student liable to suspension and further action if cause is sufficient.

When the attendance of an evening student is unsatisfactory, he will render himself liable to be dropped from the school.

BOARD AND ROOMS.

New Bedford is unusually desirable as a residential city, and students will find numerous houses of private families and boarding houses, where they may obtain room and board.

No requirements are made as to residence of out of town students, although facilities are given by having addresses of suitable houses on file at the school.

No definite estimate can be made of the cost, as this depends entirely on the tastes of the student, but board and room may be obtained for from $6.00 per week upwards.

TOOLS AND MATERIALS.

Students are required to purchase such materials, text books, tools and apparatus as may be required from time to time by the school authorities or make deposits on such as are loaned to them. The supplies required vary with the courses for which the students enter, the cost being from $8 to $15 per year.

LIBRARY.

The school maintains a library that contains all the best works on carding and spinning, weaving, designing,

knitting, dyeing, and mechanics, also a consulting encyclopedia and an international dictionary. Catalogues and pamphlets dealing with machinery or processes related to textile work are also on file, as are all the leading textile journals and trade papers. The students have access to the library during school hours.

ATHLETICS.

The school has an athletic association and the students participate actively in various sports and games. There are several athletic fields open to the students for their out-of-door sports. The management of the school will give all reasonable encouragement and support to the furtherance of healthful recreation and manly sports for its students.

THE WILLIAM FIRTH SCHOLARSHIP AT THE NEW BEDFORD TEXTILE SCHOOL.

The donation of William Firth, Esq., has established a scholarship at the New Bedford Textile School, primarily for the benefit of a son of a member or of a deceased member of the National Association of Cotton Manufacturers, furnishing to the recipient of such scholarship $120 a year for the course. Candidates for this scholarship must apply by letter only, addressed to the National Association of Cotton Manufacturers, P. O. Box 3672, Boston, Mass. The candidates must be at least sixteen years of age and furnish certificates of good moral character, and those who have been students of other technical institutions, colleges or other universities are required to furnish certificates of honorable dismissal from such institutions. Those applicants conforming to the above conditions are nominated by the Board of Government to the New Bedford Textile School, and the selection of the candidate for the scholarship is made as the result of an examination held at New Bedford, Mass. Every candidate, previous to the examination, must file an application at the school for admission, agreeing to observe the rules and regulations of the school. Candidates are eligible for any of the courses included in the curriculum of the school.

In case the son of a member or of a deceased member of the National Association of Cotton Manufacturers does not apply for the scholarship, any person eligible for entrance to the school may make application.

This scholarship will be available for the school year commencing the fall of 1916.

THE NATIONAL ASSOCIATION OF COTTON MANUFACTURERS' MEDAL.

The National Association of Cotton Manufacturers offers a medal to be awarded each year to the student in the graduating class who shows the greatest proficiency in scholarship. This is determined by an examination of the records of the students' progress throughout their studies, which are recorded and reported upon by the instructors and kept permanently on file.

The competition for this medal is open to all day students who graduate in the Complete Cotton Manufacturing Course, or to evening students who have completed studies comprised in that course and graduated therein. The association offering the medal has made it a condition of the award that at least four members of the graduating class be eligible to the competition.

EQUIPMENT.

COTTON CARDING AND SPINNING DEPARTMENT.

This department occupies nearly the entire first floor of the machinery building, and has approximately 9,000 square feet of floor surface. The equipment is large and diversified, enabling the students to become acquainted with practically all the leading makes of machines found in the carding or spinning departments of a cotton mill.

A special feature of the equipment is the large number of models of the principal parts of the different machines in this department. These models are so mounted that the different settings and adjustments can be made equally as well as on the machine itself, and thus enable the student to grasp more readily the essential points, since the parts are much more readily accessible.

The department is humidified by the system of the American Moistening Company.

Picker Room.

1 Carver cotton gin.
1 Kitson roving waste machine.
1 Kitson automatic feeder.
1 Kitson porcupine opener with cleaning trunk.
1 Kitson breaker lapper with condenser and guage box.
1 Atherton intermediate lapper.
1 Howard & Bullough finisher lapper.
1 Potter & Johnston finisher lapper.

Carding and Spinning Room.

1 Mason card.
1 Howard & Bullough card.
1 Saco & Pettee card.

1 Hetherington card.
1 Potter & Johnston card.
1 Whitin card.
1 Whitin sliver lap machine.
1 Hetherington sliver lap machine.
2 Whitin combers.
1 Hetherington comber.
1 Nasmith comber.
1 Montfort comber.
1 Mason railway head.
1 Saco & Pettee improved railway head.
1 Saco & Pettee draw frame.
1 Howard & Bullough draw frame.
1 Woonsocket draw frame.
1 Whitin draw frame.
1 Woonsocket slubber.
1 Woonsocket second intermediate.
1 Providence first intermediate.
1 Howard & Bullough second intermediate.
1 Dobson & Barlow fine roving frame.
1 Saco & Pettee fine roving frame.
1 Whitin spinning frame.
1 Howard & Bullough spinning frame.
1 Saco & Pettee spinning frame.
1 Fales & Jenks spinning frame. (Motor driven.)
1 Fales & Jenks special spinning frame for experimental work.
1 Mason mule.
1 Hetherington mule.
2 Draper twisters.
1 Draper banding machine.
1 Fales & Jenks twister. (Motor driven.)
1 Dronsfield card flat grinding and testing machine.
1 Dronsfield card clothing machine.
1 Hetherington camless winder.
1 Universal winder.
1 Foster doubling winder.

TESTING MACHINES.

1 Moscrop single thread tester.
2 Goodbrand thread testers.
1 Goodbrand conditioning and testing machine.
1 Goodbrand inspecting machine.
2 Goodbrand yarn reels.
1 Knowles yarn balance.
1 Brown & Sharpe yarn scale.
1 Goodbrand roving reel.
1 Brown & Sharpe roving reel.
1 Percentage scale.
1 Goodbrand picker lap scale.
1 Bausch & Lomb. microphotographic machine.

MODELS.

1 case English spinning and twisting spindles.
1 case American spinning and twisting spindles
2 Howard differential motions.
1 Dobson & Barlow differential motion.
1 Woonsocket differential motion.
1 Asa Lees differential motion.
1 Howard & Bullough roving frame builder motion.
1 Woonsocket roving frame builder motion.
1 Whitin spinning frame builder motion.
1 Draper twister builder motion.
1 Nasmith nipper frame.
1 Nasmith cylinder.
1 Providence roving frame swing motion.

WEAVING AND WARP PREPARATION DEPARTMENT.

This department occupies all of the second floor of the machinery building and contains about 9,500 square feet of floor area. The equipment is very complete and includes sufficient machinery to enable each student to obtain all the practical experience required in connection with his studies. All of the latest machinery is represented in this equipment, and as the machinery is made especially for use in the school it fully meets the needs of the students.

The list of machines is as follows:

1 Crompton & Knowles (Providence) plain cam loom.
1 Crompton & Knowles (Providence) plain and 3 harness cam loom.
1 Crompton & Knowles (Providence) plain and 4 harness cam loom.
1 Crompton & Knowles (Providence) plain and 5 harness cam loom with mechanical warp-stop motion.
2 Kilburn & Lincoln plain cam looms.
1 Lowell plain cam loom.
1 Lowell plain and 5 harness cam loom.
1 Whitin plain and 3 harness cam loom.
1 Whitin plain and 4 harness cam loom.
2 Whitin plain and 5 harness cam looms.
4 Draper automatic bobbin changing looms.
1 Mason standard print cloth loom.
1 Mason plain and 5 harness cam loom.
2 Whitin 25 harness dobby looms with leno and 2x1 box motions.
3 Whitin 25 harness dobby looms with leno motion.
1 Whitin 20 harness dobby loom.
2 Crompton & Knowles (Worcester) 2 bar lappet looms.
1 Crompton & Knowles (Worcester) gingham loom 4x1 box.
1 Crompton & Knowles (Worcester) gingham loom 6x1 box.
1 Crompton & Knowles (Worcester) 25 harness dobby loom.
1 Crompton & Knowles (Worcester) 20 harness dobby loom with 4x1 box motion.
1 Crompton & Knowles (Worcester) 12 harness dobby towel loom with 3x1 box motion.
1 Stafford (Providence) 20 harness dobby loom with leno motion.
1 Stafford (Providence) 25 harness dobby loom with leno motion.

1 Stafford (Readville) automatic shuttle changing loom.
1 Stafford 25 harness dobby loom.
1 Stafford (Readville) automatic shuttle changing loom, with 20 harness dobby.
1 Stafford (Providence) 25 harness dobby loom with leno motion.
1 Crompton & Knowles (Providence) 20 harness dobby loom.
1 Crompton & Knowles (Providence) 20 harness double cylinder dobby loom.
1 Crompton & Knowles (Providence) 20 harness dobby loom with multiplier.
2 Crompton & Knowles (Providence) 25 harness dobby looms with leno motions.
3 Crompton & Knowles (Providence) 25 harness dobby looms with leno and 2x1 box motions.
1 Crompton & Knowles (Providence) rise and drop jacquard loom with 200 hooks.
1 Crompton & Knowles (Providence) single lift jacquard loom with 300 hooks.
1 Crompton & Knowles (Providence) double lift jacquard loom with 400 hooks.
3 Kilburn & Lincoln 25 harness dobby looms.
1 Stafford (Readville) 25 harness dobby loom.
1 John Royle & Sons card cutting machine.
4 Whitin looms.
4 Crompton & Knowles (Providence) looms.

The eight last named looms were constructed for the school and are fitted with auxiliary shafts. They are supplied with extra cams for plain or twill and satin cam work and are to be used for taking down and setting up, timing and setting, etc.

6 Dobbies.

These dobbies have been especially constructed for the school and are mounted on benches. They

can be driven by hand and are to be used for taking down and setting up, timing and setting, etc.

There are also models for demonstrating leno motions, box motions, warp-stop motions, etc.

1 Draper spooler.
1 Easton & Burnham spooler.
1 Entwistle warper.
2 Draper warpers.
1 Whitin reel.
1 Universal bobbin winder.
1 Howard & Bullough slasher.
1 Goodbrand, size "B" cloth testing machine to test to 700 lbs.

DESIGNING DEPARTMENT.

The design class room is located on the third floor of the recitation building, and is a large well lighted room containing all the appliances necessary for instruction in this important subject. Special attention has been given to the method of lighting this room to give the best results, and the desks are made with special reference to the needs of the student of designing.

The hand loom work is located in a large room on the third floor of the machinery building. This room contains twenty-eight hand looms adapted to the use of students in experimental work, and in putting into practice the theory of designing, and also to enable them to produce certain of the designs that they are taught in the designing class. The room is well lighted by a sawtooth roof.

ENGINEERING DEPARTMENT.

Instruction in the Engineering Department is carried on in five different rooms located in various parts of the new building. These rooms are arranged and fitted out with apparatus to meet the needs of the students following this course. The department is subdivided into the

following sections: Mechanical Drawing. Textile Engineering, and Machine Shop Work.

Mechanical Drawing.

The drafting room is located on the second floor of the new building and is well lighted by northern and western exposures. It is equipped with independent drawing tables and lockers for the drawing boards and materials. For the students' use in connection with their drafting instruction there is a collection of models, mechanical apparatus and machine parts. On the third floor there is a swinging blue print frame mounted on a track, and a large dark room fitted with modern conveniences for blue printing.

Steam and Electrical Engineering.

Instruction in steam and electrical engineering is given both in theory and practice. The theoretical part of the course is carried on in a large recitation room on the second floor, while the practical side is studied in the engineering laboratory in the basement of the new building. The laboratory is supplied with steam direct from the boiler room and also has gas and water connections. For the study of electricity there is provided a source of alternating current at 110 volts and 220 volts pressure.

The laboratory equipment consists of the following apparatus:

1 Cahall 60-horse power water tubular boiler.
1 Buffalo 40-horse power horizontal high speed steam engine.
1 12x24 Wetherill horizontal Corliss steam engine.
1 2½ KW. compound wound special laboratory rotary converter.
1 Jacobs boiler feed water heater.
1 Cockrane oil separator.
1 Buffalo 3″ x 2″ x 3½″ duplex feed pump.
1 Knowles 4½″ x 2¾″ x 4″ feed pump and receiver.
1 Four-horse power gas engine.

1 Sturtevant 5½-horse power vertical steam engine.
1 Small model steam power plant.
1 Crosby gauge tester.
2 Crosby steam engine indicators.
1 Portable wattmeter.
1 Portable voltmeter.
1 Portable ammeter.
1 Tachometer.
1 Peabody calorimeter.
1 Amsler polar planimeter.
1 Type N Metropolitan injector.
1 Portable switchboard.
3 1000-watt single phase transformers.
1 2 KW., D. C. generator.
1 Five-horse power induction motor.
1 Rheostat.
1 D. C. volt-ammeter.
3 A. C. voltmeters.
4 A. C. ammeters.
1 Seller's complete exhibit of transmission devices.
1 Current transformer.
1 Wire resistance frame.
1 Lamp resistance frame.
2 Arc lights.
1 Prony brake.
1 Universal lecture table galvanometer.

The equipment includes several steam gauges and a number of the various types of stop and check valves in part section to show the working mechanism. The school power plant is available for use in studying steam and electrical devices found in the modern power plant.

Machine Shop.

This department of the school occupies about 2800 square feet of floor surface on the first floor of the new building. The department is electrically driven and the equipment, all of which is modern, is as follows:

1 Reed 18″ x 8′ engine lathe.
3 Reed 12″ x 6′ engine lathes.
6 Reed 12″ x 5′ engine lathes.
2 Flathers 13″ x 6′ engine lathes.
1 Hendey 14″ x 6′ engine lathe.
1 Whitcomb and Blaisdell 13″ x 5′ engine lathe.
1 Seneca Falls 11″ x 5′ star lathe.
1 Reed 11″ x 5′ speed lathe.
1 Prentice 20″ drill.
1 Diamond 20″ x 2½″ water tool grinder.
1 Builders' Iron Foundry 12″ x 2″ emery grinder.
1 Morse No. 1 plain grinder.
1 Perkins 8″ x 20″ mitre trimmer.
1 Potter & Johnston 15″ Universal shaping machine
2 Cincinnati 16″ shapers.
2 Brown & Sharpe No. 2 Universal milling machines.
1 Woodward & Powell 24″ x 6′ planer.
1 W. & B. Douglas grindstone.
1 Star power hack saw.
1 Beach scroll saw.
1 Gas forge.
1 Morse cutter and twist drill grinder.
1 Eagle anvil, 100 pounds.
1 Peerless portable electric hand drill.
1 Peerless portable electric tool post grinder.
1 Machinists' work bench equipped with vises.
1 Tool cabinet containing small tools.
1 Jackson belt lacer.
1 Universal milling attachment.
1 10″ circular milling and dividing attachment.
1 Slotting attachment and set of tools.
1 Rack cutting attachment.
1 Indexing attachment.
1 Toolmakers' vise.
1 Greenard arbor press.

CHEMISTRY, DYEING AND FINISHING DEPARTMENT.

This department occupies about 13,600 square feet, situated in the basement and on the first and third floors of the recitation building. This space is divided into six laboratories, a lecture and recitation room, a reading room and office for the principal of the department, and two store rooms. The general chemistry and dyeing laboratory is a large well lighted room 63′ 6″x20′ on the first floor, and is especially designed to meet the needs of the students in the general courses. This laboratory is equipped with forty-two double desks in rows of three desks each. At the end of each row is situated the sink and dye bath. Along the wall, on the opposite end, are the hoods. For the students taking the special course in chemistry, two special laboratories are provided. These two laboratories occupy a space 40′ x 17′, the main part of which is devoted to the chemical laboratory. On the northern exposure is a small laboratory for photometric, microscopic and gravimetric work. In the main special laboratory each student has desk space 2′ x 8′ and his own desk, dye bath and draught hood. Conveniently located are a large drying oven, four ten-gallon dye kettles, and one twenty-gallon dye kettle. This laboratory is equipped at each desk with gas, water, steam, blast, and suction in order that the student's work may be carried on with the utmost celerity conducive to the best results. The laboratory for converting cotton textiles is located in the basement. It contains all the machines necessary to demonstrate in practical proportions the operations involved in singeing, scouring, bleaching, mercerizing, dyeing, drying and calendering of cotton piece goods. This room is lighted in the best possible manner and all matching of dyed goods is done under specially corrected electric light.

The following pieces of special apparatus are at the disposal of the student as his work may require:

4 Gas heated dye kettles, ten gallons capacity.
1 Gas heated dye kettle, twenty gallons capacity.

1 Wooden dye beck, twenty gallons capacity, steam heated.
1 Wooden dye kettle, twelve gallons capacity, steam heated.
1 Steaming chest.
1 Experimental printing machine.
1 Hydro extractor.
1 Copper color kettle.
6 Twenty-eight hole experimental dye baths.
14 Twelve hole experimental dye baths.
1 Autoclave.
1 Oil viscosimeter.
1 Orsat gas apparatus.
2 Hempel gas apparatus (complete sets).
1 Westphal balance.
4 Analytical balances.
1 Munsell photometer with special attachment for measuring daylight.
1 Emerson calorimeter.
1 Rabe turbine water tester.
1 Flash point tester for oils.
1 Furnace.
1 Spectroscope.
3 Microscopes.
3 Drying ovens.
1 Motor.
1 Power air blast.
1 Water heater.
1 Jewell water still.
2 Combustion furnaces.
3 Large water baths for analytical work.
5 Balances for general laboratory work.
1 Single burner gas singer complete with air pump and spark extinguisher.
2 40″ Jigs equipped with rubber covered beam rolls and special squeeze roller.
1 Six cylinder horizontal drying machine cylinder of

standard diameter and complete with folder and special Files exhausting device.

1 Two roll husk combination and chilled iron steam heated calender, equipped with expander and special moistening device.

1 Three-roll padding machine, equipped with rubber covered rolls and special interchangeable boxes for dyeing, starching, or mercerizing, complete with folder.

1 Thirty-foot automatic tentering machine with Butterworth patent automatic clamp chain, having nickel plates and nippers with nickel inserts; machine equipped with Butterworth patent vibratory motion, and two steam coils.

1 Set of rubber covered squeeze rolls and stand, adjustable, to be used at jigs, drying cans, or at either end of tentering frame.

1 Franklin dyeing machine, complete.

1 Stocking dyeing machine.

KNITTING DEPARTMENT.

The knitting department occupies two large connecting rooms on the top floor of the machinery building and contains about 6,600 square feet of floor area. The equipment is very complete, there being a greater number of machines and a larger variety than can be found in any similar school in the world. The work that has been produced by the students of this department has received high praise from some of the leading experts in the knitting trade, the hosiery and underwear taking especially high rank.

The list of machines in this department is as follows:

1 Excelsior cloth dryer.

1 Ballard electric cloth cutter.

1 Beattie 16 point two thread looper.

1 Beattie 22 point two thread looper.

1 Koehler 20 point looper.

1 Brinton 4″ 84 and 160 needle rib top machine.
1 Brinton 3¾″ 108 and 188 needle rib leg machine.
1 Brinton 4″ ¾ automatic hosiery machine.
1 Brinton 16″ automatic body machine.
1 Brinton 4½″ 320 needle welter and automatic knee and ankle splicing rib leg machine, with Wildman stop-motion.
1 Brinton 3½″ 160 needle full automatic footer.
1 Crane 36 guage spring needle machine.
1 Crane 15″ spring needle rib body machine.
1 Crane 19″ body machine.
1 Crawford 12 end stop-motion.
1 Hemphill Mfg. Co. 3¾″ 200 needle automatic hosiery machine.
1 Hemphill Mfg. Co. 3½″ 188 needle full automatic hosiery machine.
1 Hemphill Mfg. Co. Banner automatic footer.
2 Huse winders.
4 Jenckes full automatic hosiery machines.
1 Jones hosiery and underwear brusher.
1 Kennedy automatic band folding and cutting machine.
1 Lamb sweater machine.
1 Lamb glove machine.
1 March & Crawford two end stop-motion.
1 March & Crawford four end stop-motion.
1 March & Crawford sixteen end stop-motion.
1 Mayo 3½″ 200 needle full automatic footer with high splice and double sole attachment.
1 Mayo full automatic hosiery machine with yarn changer.
1 Mayo 3½″ striper.
2 Mayo full automatic hosiery machines.
1 Merrow, Style 60D, two thread trimming and over-seaming machine.
1 Merrow, Style 60D, three thread trimming and over-seaming machine.

1 Merrow, Style 60H, two thread trimming, overseaming and hemming machine.
1 Merrow, Style 60ED, three thread overedging machine.
1 Merrow, Style 15A, two thread plain crochet machine.
1 Merrow, Style 35B, shell stitch crochet machine.
1 Metropolitan Sewing Machine Company's machine for sewing on lace.
1 Metropolitan, Style 30 T. C., toggle trimmer.
1 Payne winder.
20 doz. Pearson hosiery boards.
1 Hurricane stocking and underwear dryer.
1 Scott & Williams 3¾″ welter 176 and 200 needle rib top machine.
1 Scott & Williams 3¾″ striper 176 and 180 needle rib top machine.
1 Scott & Williams 4″ 220 needle full automatic half hose machine.
1 Scott & Williams 4¼″ welter 180 needle rib leg machine.
1 Scott & Williams 4¼″ welter 216 needle rib leg machine.
1 Scott & Williams 4¼″ welter 276 needle rib leg machine.
1 Scott & Williams 4¼″ welter 300 needle rib leg machine, with Crawford stop-motion.
1 Scott & Williams 3¾″ two feed sleever 220 needle machine, with Crawford stop-motion.
1 Scott & Williams 4¼″ two feed sleever 264 needle machine.
1 Scott & Williams 10″ four feed automatic body machine, 8 x 10 cut.
1 Scott & Williams 13″ eight feed automatic body machine, 10 cut.
1 Scott & Williams 20″ Swiss rib machine, cut 12 to inch, with Crawford stop-motion,

1 Scott & Williams 20″ balbriggan machine, cut 16 to inch.
1 Scott & Williams 20″ rib border machine, cut 14 to inch.
1 Scott & Williams 3½″ 160 needle ⅞ automatic footer.
1 Scott & Williams bar stitch machine.
1 Scott & Williams chain machine.
1 Scott & Williams 12 point looper.
1 Singer No. 44 lock stitch finishing machine.
1 Singer No. 24 chain stitch finishing machine.
1 Singer twin needle taping machine.
1 Singer No. 32-29 eyeletting machine.
1 Singer No. 68-7 button sewer.
1 Singer No. 79-1 drawer strapper.
1 Stafford & Holt 14″ fancy sweater machine.
1 Standard Sewing Machine Co.'s button hole machine.
1 Tompkins knitting table, 22 and 36 gauge.
1 Union Special Machine Co. flat bed twin needle machine.
1 Union Special Machine Co. collarette machine.
1 Union Special Machine Co. button facing machine.
1 Union Special Machine Co. seaming machine with Dewees trimmer.
1 Union Special Machine Co. toggle grinder.
2 Union Special Machine Co. twin needle covering machines.
1 Union Special Machine Co. drawer finishing machine.
1 Union Special Machine Co. hemming and seaming machine.
1 United Shoe Machinery Co. eyeletting machine.
1 Wildman 3¾″ two feed striper and fancy pattern machine.
1 Wildman necktie machine.
1 Wildman 3½″ ribber with selvage welt and striper.

1 Wildman 3½″ selvage welt machine.
1 Wildman 13″ automatic 8 and 12 cut body machine.
1 Wildman 4¼″ sleever.
1 Wildman 18″ Swiss rib machine.
1 Wildman 4¼″, 216 needle rib leg machine.
1 Wildman 4¼″, 272 needle rib leg machine with lace attachment. (Wildman machines equipped with Wildman stop-motions.)
3 Crawford stop-motions.
1 Skevington floating thread cutter.
1 Foster Machine Co. cone winder, 16 ends.

POWER, HEAT AND LIGHT PLANT.

1 Stirling 105 horse power water tubular boiler.
1 B. & W. 155 horse power water tubular boiler.
1 Foster shaking grate.
1 Dillon shaking grate.
1 Deane 4¾″ x 2¾″ x 4″ duplex double outside packed plunger steam pump, connected to a receiver tank.
1 Deane 4¾″x 3″x 5″ single steam pump.
1 National 100 horse power feed water heater.
1 Atwood and Morrill damper regulator.
1 Sturtevant 75 horse power horizontal center crank engine.
1 American Ball 160 horse power engine.
1 Westinghouse 50 KW, 220 volt, 3 phase, alternating current generator, direct connected.
1 Westinghouse 4 KW, 125 volt, direct current generator.
1 G. E. 100 KW, 220 volt, 3 phase, alternating current generator, direct connected.
1 G. E. 9½ KW, 125 volt, direct current generator.
1 G. E. recording Wattmeter.
1 W. S. Hill four panel switchboard equipped with 9 Wagner indicating ammeters, 2 Wagner indi-

cating voltmeters, 1 Thomson 50 KW three phase integrating Wattmeter, 2 direct reading KW meters, 14 Wagner current transformers, 1 Westinghouse combination rheostat, 1 G. E. combination rheostat, 2 Condit Electrical Mfg. Co.'s 250 V circuit breakers, all necessary switches, bus bars, etc.

2 Turbine fans.

1 Cockrane oil separator.

2 Steam separators, 1 reducing valve, 1 back pressure valve, 1 oil filter, 1 blow-off tank.

2 Anderson No. 3 high pressure steam traps.

5 Nason low pressure steam traps.

3 Sterling low pressure steam traps.

1 Reliable electric vacuum pump.

1 Ash elevator.

1 Sturtevant heating and ventilating outfit.

1 American moistening outfit.

9 General Electric induction motors, equipped with oil starting switches.

2 Westinghouse motors.

GRADUATION EXERCISES.

The graduation exercises for the school year 1914-15 were held in the hall of the school Thursday evening, June 17th.

PROGRAMME.

OVERTURE—Lutspiel *Kela-Bela*

Tolman's Orchestra.

OPENING ADDRESS.

William E. Hatch.

PRESIDENT OF THE CORPORATION.

ADDRESS.

Hon. Grafton D. Cushing.

LIEUTENANT GOVERNOR OF THE COMMONWEALTH.

HUMORESKE *Dvorak*

Tolman's Orchestra.

ADDRESS.

Rev. William B. Geoghegan.

PASTOR UNITARIAN CHURCH, NEW BEDFORD.

EXCERPTS from Faust *Gounod*

Tolman's Orchestra.

PRESENTATION of Diplomas and Certificates.

William E. Hatch.

PRESIDENT OF THE CORPORATION.

PRESENTATION of the National Association of Cotton Manufacturers' Medal.

Mr. John Sullivan.

AGENT TABER MILL.

MARCH—Made in U. S. A. *Santos*

Tolman's Orchestra.

GRADUATES—1915.

DIPLOMA COURSES—DAY CLASSES.

General Cotton Manufacturing:

Robert E. Achorn, Jr.
William W. Allan
Alfred J. Bearcovitch
Leo A. Bessette
John J. Blake
Niles W. Goward
Raymond M. Jenks
C. Stanley Kinney
Alexander Shill
Benjamin Waldstein
Thomas G. Wong

Designing:

Antonio J. de la Espriella.

Chemistry and Dyeing:

Harold B. Sturtevant.

DIPLOMA COURSES—EVENING CLASSES.

Carding and Spinning:

John F. Hagen.

CERTIFICATE COURSES—DAY CLASSES.

Carding and Spinning:

Russell E. Goff
Howland Wentworth

Designing and Weaving:

Albert Brend.

Mechanical Drawing and Machine Shop Practice:

Allan K. Hamer
William L. O'Brien

CERTIFICATE COURSES—EVENING CLASSES.

TWO YEARS.

Edward B. Allen
Joseph H. Allen
Cheng Q. Amona
Allan Barrows
Manuel S. Botheilho
Earle P. Bowen
Fred Bradley
John W. Bradley
Arthur A. Carrier
Esau Carter
Jacob Chambers
James A. Connor
Charles Cowley
Harold A. Dahill
Edward W. Douglas
Harry Fielding
Seabrook P. Grimshaw
William J. Hargreaves
John Haznar
George W. Howland
Edward E. Judge
Wilfrid Jukes
Eugene Labbe
Ernest N. Lee
John M. Lowther
Henry Luckraft
James Metcalfe
Joseph Mieluch
Leonard Newett
T. Hamilton Noland
Arthur O'Leary
George W. Pope
Henry Raposo
Earl C. Riley
Frank Rothwell
Allen G. Shaw
John Slobodzian
Manuel M. Soares
Anthony R. Sylvia
Antonio Sylvia
Eugene W. Trask
Clifford L. White
Alfred P. Wilbor
Francis S. Winsper
William L. York

THREE YEARS.

Joseph Aumann
Joseph Boothroyd
James L. Burton
August F. DeMello
Edward DeMello
Frank Driesen
Walter Gardner
Frederick Gee
Harold Harrop
Charles E. Metivier
John F. O'Malley
Norman M. Paull
William H. Roberts
Aaron Sharples
Walter Thornley
Harry A. Visco
Thomas Ward
Albert H. Winterbottom

FOUR YEARS.

James Ashworth
Abram Brooks
Charles R. Church
Arthur Dewhurst
Thomas F. Eccleston
Timothy Gorton
William H. Harrop
Lawrence C. Maud
Richard Molyneux
Henry Rothwell
William Sharples, Jr.
Richard Smith
Leo Steiblin
Robert E. Townsend

FIVE YEARS.

William H. Gamble
Frank Holden
Harold Marsh
John A. Mellor
William Southworth
August G. Wilken

SIX YEARS.

Frederick D. Walton
Walter Whitehead

SEVEN YEARS.

William E. Parker
Eric G. Peterson

NEW BEDFORD
TEXTILE SCHOOL ALUMNI ASSOCIATION.

This is a flourishing association of the graduates of the Day Classes of the school. In addition to its regular membership, it has an honorary membership of the faculty of the school and trustees of the corporation.

It holds an annual dinner and several smoke-talks during the year, at which speakers give addresses on topics relating to the textile industry.

OFFICERS FOR THE YEAR.

President—Raymond H. Chase.
Vice President—Clifford L. White.
Secretary-Treasurer—Lester D. Patt.
Executive Committee—The above officers and Harold C. Cornell and Albert W. Goodwin.

REGISTER OF DAY GRADUATES.

1900

Name	Diploma Courses	Occupation
Wade H. Hadley,	Carding and Spinning.	Sec'y and Treasurer Gregson & Dorsett, Siler City, N. C.
Henry W. Nichols,	Weaving.	Chief Instructor, New Bedford Textile School.
Thomas G. Williamson,	Carding and Spinning.	Present address not known.

1901

Name	Diploma Courses	Occupation
Charles E. Buckley,	Weaving.	Designer, Gosnold Mills, New Bedford, Mass.
Arthur R. Dickinson,	General Cotton Manufacturing.	Textile Representative, Lockwood, Greene & Co., Atlanta, Ga.
Thomas T. Gifford,	General Cotton Manufacturing.	With Pierce Mfg. Co., New Bedford, Mass.
Milo L. Moss,	Carding and Spinning.	In business, New Bedford, Mass.
*Nelson A. Wood,	General Cotton Manufacturing.	

*Deceased.

Name	Certificate Courses	Occupation
Thomas J. McNeeley,	Weaving.	Superintendent, Elberton Mfg. Co., Elberton, Ga.
Richard Riding,	Special.	No record.
Guy P. Stubbs,	Special.	Manager of an estate, Monroe, La.

1902

Diploma Courses

Andrew Currie, Jr.,	General Cotton Manufacturing.	Real Estate, Shreveport, La.
Myron C. Fish,	Carding and Spinning.	Sec'y American Supply Co., Providence, R. I.
Esley H. Forbes,	General Cotton Manufacturing.	Present address not known.
Lester E. Hawes,	Weaving; also Carding and Spinning.	Chauffeur, New Bedford, Mass.
John J. Hutchinson,	General Cotton Manufacturing.	Laundry Proprietor, Los Angeles, Cal.
John W. Osborn,	General Cotton Manufacturing.	Present address not known.
Benjamin Richards,	Carding and Spinning.	Supt. of Surveys, Underwriters' Bureau of New England, 141 Milk St., Boston, Mass.

Certificate Courses

Alberto Madero,	Special.	Present address not known.

1903

Name	Diploma Courses	Occupation
Archie McKay Bethea,	General Cotton Manufacturing.	Cotton Planter, Dillon, S. C.

Name	Diploma Courses	Occupation
Bennett D. Nelme,	Weaving.	Farmer, Wadesboro, N. C.
Walter Turnbull,	General Cotton Manufacturing.	General Agent, Life Insurance Co. of Virginia, Richmond, Va.
Theodore Wood,	General Cotton Manufacturing.	Fabric Manager, Goodyear Tire and Rubber Co., Akron, Ohio.

1904.

Name	Diploma Courses	Occupation
Edward P. Doherty,	Designing.	Police Lieutenant, New Bedford, Mass.
Beirne Gordon, Jr.,	General Cotton Manufacturing.	Supt., Skenandoa Cotton Co., Utica, N. Y.
Henry J. O. Goulet,	General Cotton Manufacturing.	Designer, Waypoyset Mfg. Co., Central Falls, R. I.
George P. Kean,	Weaving.	Overseer Carding, Dana Warp Mills, Westbrook, Me.
Chu Kinhow,	Carding and Spinning	Present address not known.
Ricardo J. Rivero,	Carding and Spinning.	Present address not known.
William A. Spencer,	Carding and Spinning.	Overseer Carding, Paul Whitin Mfg. Co., Northbridge, Mass.
Charles K. Taylor,	Carding and Spinning.	Asst. Mgr. and Gen. Supt. Selma Mfg. Co., Selma, Ala.
Fred Taylor,	General Cotton Manufacturing.	Cotton Technologist, Dept. of Agriculture, Washington, D. C.

Name	Diploma Courses	Occupation
Clifford B. Terry,	Carding and Spinning.	Foreman for Whitin Machine Works, Whitinsville, Mass.
Frederick J. Young,	Carding and Spinning.	Supt., Jackson Fibre Co., Bemis, Tenn.
Andrew Ybarra,	Carding and Spinning.	No record.
	Certificate Courses	
Morton LeB. Church,	Special.	Treasurer, Capitola Mfg. Co., Marshall, N. C.
John B. B. LaFleur,	Knitting.	Present address not known.

1905

Name	Diploma Courses	Occupation
James O'H. Cazennove,	General Cotton Manufacturing.	Promotion work and Manufacturing, United Royalties Corp., 905 Tribune Bldg., New York City.
John J. W. Cooper,	General Cotton Manufacturing.	Assistant in Agricultural Technology, U. S. Agricultural Dept., Washington, D. C.
Sidney W. Corson,	General Cotton Manufacturing.	Overseer of Carding, Walcott & Campbell Spinning Co., New York Mills, N. Y.
William B. MacColl,	Designing.	Supt., Lorraine Mfg. Co., Pawtucket, R. I.

Name	Diploma Courses	Occupation
Otis P. Mills, Jr.,	General Cotton Manufacturing.	Real Estate, Greenville, S. C.
Clifford H. Tripp,	General Cotton Manufacturing.	Present address not known.
Rex. G. Witherbee,	General Cotton Manufacturing.	With Utica Steam & Mohawk Valley Cotton Mills, Utica, N. Y.
	Certificate Courses	
Fred L. Baldwin,	Special.	With Sulloway Hosiery Mills, Franklin, N. H.
Murray F. Barrows,	Special.	Merchant, New Bedford, Mass.

1906

Name	Diploma Courses	Occupation
Richard S. DeMartin,	Carding and Spinning.	Second Hand Carding, Kilburn Mill, No. 1, New Bedford, Mass.
Elmer L. Freeman,	Latch Needle Underwear Knitting.	Manufacturer of Surgical Elastic Bandages, Elastic Hosiery, etc., Detroit, Mich.
Walton Hall, Jr.,	Carding and Spinning.	Supt., Hall, Lincoln & Co., Moodus, Conn.
John J. O'Neil,	Latch Needle Underwear Knitting.	Optician, Springfield, Mass.
Thomas W. Williamson,	General Cotton Manufacturing.	With the New Bedford Gas & Edison Light Co.

1907

Name	Diploma Courses	Occupation
Lloyd S. Delano,	General Cotton Manufacturing.	Overseer of Weaving, Hathaway Mfg. Co., New Bedford, Mass.
John H. Grady,	Chemistry and Dyeing.	Proprietor of Bay State Dye House, Northampton, Mass.
S. Eugene Jackson,	Carding and Spinning.	Cotton Yarn Salesman, William Whitman & Co., Inc., Boston, Mass.
William A. Lee,	General Cotton Manufacturing.	Clerk, Mills Mfg. Co., Greenville, S.C.
Li Kung,	General Cotton Manufacturing.	*Principal of Canton College, Canton, China.
Lo Ting-yu,	General Cotton Manufacturing.	*Chief Professor of Textile Dept., Peking Technical College, Peking, China.
John A. McKenzie,	Chemistry and Dyeing.	Proprietor of Bay State Dye House, Northampton, Mass.
Andrew W. Macy,	General Cotton Manufacturing.	Overseer Cloth Room, Nashawena Mills, New Bedford, Mass.
Frank Pieraccini, Jr.,	Designing.	Designer, Barnard Mfg. Co., Fall River, Mass.
Ellis H. Thayer,	Latch Needle Underwear Knitting.	Present address not known.
Yiu Sun Tsang,	General Cotton Manufacturing.	*Associate Engineer, Tsang Bros. & Co., Canton, China.

*Last known address.

Name	Diploma Courses	Occupation
Frederick J. Vera,	General Cotton Manufacturing.	Third Hand, Kilburn Mill, New Bedford, Mass.
Harold J. Walters	Seamless Hosiery Knitting.	Asst. Supt. Wilton & Brussels Carpet Co., A. St. and Indiana Ave., Philadelphia, Pa.
Wong Ka Luen,	General Cotton Manufacturing.	*The Supply Dept., Ministry of War, Peking, China.
George Worden,	Designing.	Overseer Weaving, Potomska Mills, New Bedford, Mass.

1908

Name	Diploma Courses	Occupation
William G. Blair, Jr.,	General Cotton Manufacturing.	Principal of Carding and Spinning, Clemson College, S. C.
William Booth,	Carding and Spinning.	Present address not known.
Chih Yeh Chang,	General Cotton Manufacturing.	No record.
Yee Buck Deu,	Seamless Hosiery Knitting; also General Cotton Manufacturing.	*President of Sun Ming Hosiery and Underwear Knitting Co., Sun Ming, China.
John V. Gallagher,	Seamless Hosiery Knitting.	No record.
Lester D. Patt,	Designing.	Designer, Waypoyset Mfg. Co., Central Falls, R. I.
Chee Lee Tsu,	General Cotton Manufacturing.	No record.

*Last known address.

1909.

Name	Diploma Courses	Occupation
Frederick J. Bister,	General Cotton Manufacturing.	With John Bister, 33-35 Greene St., New York City.
Alton W. Chase,	Designing.	Boss Comber, Quissett Mill, New Bedford, Mass.
Milton C. Devoll,	Designing.	Cotton Classer, 10 N. Front Street, Memphis, Tenn.
Max A. Freschl,	Seamless Hosiery Knitting.	Supt. Holeproof Hosiery Co., Milwaukee, Wis.
Philip C. Gilkey,	Seamless Hosiery Knitting.	Overseer Knitting, J. Broadbent & Son, Inc., Unionville, Conn.
Albert G. Neel,	Latch Needle Underwear Knitting, also Carding and Spinning.	Manager, Supreme Underwear Mill and Ritesize Underwear Co., Utica, N. Y.
Charles Pittle,	Seamless Hosiery Knitting.	Photographer, New Bedford, Mass.
Arthur E. Snyder,	Latch Needle Underwear Knitting, also Carding and Spinning.	With Percy A. Legge, Agt. for Worsted Yarns, 185 Summer St., Boston, Mass.
Arthur F. Spare,	General Cotton Manufacturing.	Salesman, Central Lumber & Supply Co., New Bedford, Mass.
George C. Urquhart,	Chemistry and Dyeing.	Salesman, Franklin Process Co., Providence, R. I.
Clifford L. White,	Designing.	Clerk, Potomska Mills, New Bedford, Mass.

Name	Certificate Courses	Occupation
William J. Blades,	Carding and Spinning.	Comber Fixer, Lorraine Mfg. Co., Pawtucket, R. I.

1910

Name	Diploma Courses	Occupation
Raymond H. Chase,	General Cotton Manufacturing.	Second Hand, Card Room, Pierce Mfg. Corp., New Bedford, Mass.
Paul F. Gay,	General Cotton Manufacturing.	Third Hand, Card Room, Gosnold Mill, New Bedford, Mass.
Dana H. Gillingham,	Chemistry and Dyeing.	Branch Manager, Boston Index Card Co.
Lewis G. Manning,	Latch Needle Underwear Knitting, also Carding and Spinning.	Asst. Supt., Mentor Knitting Mills Co., Erie, Pa.
	Certificate Courses	
Roger M. H. Wilcox,	Special.	Head Salesman, H. J. Heinz Co., Cambridge, Mass.

1911

Name	Diploma Courses	Occupation
Milton J. Bentley,	General Cotton Manufacturing.	In charge of Textile Department, State Trade Shop, Putnam, Conn.

Name	Diploma Courses	Occupation
Kenyon H. Clark,	Latch Needle Underwear Knitting.	Asst. Engineer, New York State Highway Dept. Division No. 1, Poughkeepsie, N. Y.
Harold C. Cornell,	General Cotton Manufacturing.	With French Knitting Co., Pawtucket, R. I.
Edward W. Dewey,	Latch Needle Underwear Knitting.	Supt., Bennington Hosiery Co., Bennington, Vt.
Earl W. Dunmore,	Latch Needle Underwear Knitting.	Present address not known.
Albert W. Goodwin,	Designing.	344 Cedar St., New Bedford, Mass.
Carleton LeB. Hamlen,	Chemistry and Dyeing.	Chemist, Holmes Mfg. Co., New Bedford, Mass.
Caleb A. Hayward, Jr.,	Latch Needle Underwear Knitting.	Manufacturer's Agent, Confectionery, New Bedford, Mass.
Warren E. Holland,	Designing and Carding and Spinning.	Cotton Classer, Ponemah Mills, Taftville, Conn.
Frank Kallish,	General Cotton Manufacturing.	Designer, Beacon Mfg. Co., New Bedford, Mass.
Henry C. Labrode,	General Cotton Manufacturing.	General Electric Co., Pittsfield, Mass.
Benjamin Livesey, Jr.,	Chemistry and Dyeing.	Chemist and Manager, Smith Color Co., Danielson, Conn.
Augustus C. Macomber,	General Cotton Manufacturing.	74 State St., New Bedford, Mass.
Edward A. Robenolt,	Designing and Carding and Spinning.	Boss Comber, Blackstone Mfg. Co., Blackstone, Mass.
Carlton W. Smith,	Chemistry and Dyeing.	Residual Sales Clerk and Assistant Gas Tester, New Bedford Gas & Edison Light Co., New Bedford, Mass.

Name	Diploma Courses	Occupation
Perry Vincent,	General Cotton Manufacturing.	Clerk, DeWolf & Vincent, New Bedford, Mass.
	Certificate Courses	
James P. Brown,	Carding and Spinning.	With Credeld Waste & Batting Co., Saylesville, R. I.
Robert R. Jenks,	Carding and Spinning.	With Fales & Jenks Machine Co., Pawtucket, R. I.
Thomas B. O'Brien.	Carding and Spinning.	Assistant Instructor in Carding and Spinning, New Bedford Textile School.
Alfred Scheid.	Carding and Spinning.	Weaver, Taber Mill, New Bedford, Mass.

1912

Name	Diploma Courses	Occupation
Chen Ting-Fang,	General Cotton Manufacturing.	Present address not known.
Francis J. Fagan,	Latch Needle Underwear Knitting.	With United Knit Wear Co., Utica, N. Y.
Morton T. French,	Seamless Hosiery Knitting.	With French Knitting Co., Pawtucket, R. I.
Frank E. Hinckley,	Chemistry and Dyeing.	Estimate Clerk, Dennis, Desaulniers & Mulcahy Co., Dorchester, Mass.
Edward E. Judge,	General Cotton Manufacturing.	Assistant Designer, Gosnold Mills, New Bedford, Mass.

Name	Diploma Courses	Occupation
Ernest A. Scholze,	Designing.	Assistant Designer, The Paul Whitin Mfg. Co., Northbridge, Mass.
Luis C. Visbal,	Seamless Hosiery Knitting.	In charge of Knitting Mill, Cartagena, Colombia, S. A.

1913

Name	Diploma Courses	Occupation
Edward W. Clarke,	General Cotton Manufacturing.	No record.
Elton R. Darling,	Chemistry and Dyeing.	Chemist in charge of research and experimental laboratories, Sayles Finishing Plants, Pawtucket, R. I.
Bertram Goldberg,	Seamless Hosiery Knitting.	Head of Analytical Dept., Julius Kayser Knitting Co., Brooklyn, N. Y.
Ralph S. Howland,	General Cotton Manufacturing.	Publicity Man, The Lewis Mfg. Co., Walpole, Mass.
Maurice A. Lewis,	Chemistry and Dyeing.	Textile Chemist, Chicago-Kenosha Hosiery Co., Kenosha, Wis.
Edward Mechaber,	Seamless Hosiery Knitting.	Salesman, R. Mechaber's Sons, New Bedford, Mass.
Stephen R. Moore,	Designing.	Changer over, Taber Mill, New Bedford, Mass.
Myrtland F. Paimer,	General Cotton Manufacturing.	Assistant Designer and Overseer of Sample Room, Acushnet Mill Corp., New Bedford, Mass.

Name	Certificate Courses	Occupation
Justo D. de la Espriella,	Carding and Spinning and Chemistry.	In charge of Yarn Dept. of a mill in Cartagena, Colombia, S. A.
Percy D. Tourtellot,	Carding and Spinning.	Fitter on Combers, Manomet Mills, New Bedford, Mass.

1914

Name	Diploma Courses	Occupation
Raymond A. Burt,	Chemistry and Dyeing.	Asst. Instructor in Chemistry and Dyeing, New Bedford Textile School.
Charles E. Fessenden,	Designing.	Changer-over, Nashawena Mills, New Bedford, Mass.
Walker B. Mason,	General Cotton Manufacturing.	With Brazil Clay Co., Brazil, Indiana.
	Certificate Courses	
Edward F. Dolan,	Carding and Spinning; also Seamless Hosiery Knitting.	With Lawrence Felting Co., Millville, Mass.
Lincoln Hall,	Cotton Yarn Preparation and Weaving.	Cotton Salesman, Cooper & Brush, New Bedford, Mass.
Bryden Pease,	Cotton Yarn Preparation, Weaving and Designing.	Cotton Classer, Wamsutta Mills, New Bedford, Mass.
Edward A. Thayer,	Carding and Spinning; also Latch Needle Underwear Knitting.	Asst. to Secy., Underwear Dept., Lebanon Mill Co., Pawtucket, R. I.
Joseph A. Livingstone	Special.	Clerk, Finishing Room, Bennett Mills, New Bedford, Mass.

1915

Name	Diploma Courses	Occupation
Robert E. Achorn, Jr.,	General Cotton Manufacturing.	Sample Weaver, Acushnet Mills Corp., New Bedford, Mass.
William W. Allan,	General Cotton Manufacturing.	With Fisherville Mfg. Co., Fisherville, Mass.
Alfred J. Bearcovitch,	General Cotton Manufacturing.	Fancy Weaver, Potomska Mills, New Bedford, Mass.
Leo A. Bessette,	General Cotton Manufacturing.	Tester, Manomet Mills, New Bedford, Mass.
John J. Blake,	General Cotton Manufacturing.	Machine Drafting, Mason Machine Works, Taunton, Mass.
Antonio J. de la Espriella,	Designing.	With a mill in Cartagena, Columbia, S. A.
Niles W. Goward,	General Cotton Manufacturing.	Grinder, Chace Mills, Fall River, Mass.
Raymond M. Jenks,	General Cotton Manufacturing.	Cost Clerk, Whitman Mills, New Bedford, Mass.
C. Stanley Kinney,	General Cotton Manufacturing.	With Warren Mfg. Co., Warren, R. I.
Alexander Shill,	General Cotton Manufacturing.	313 Pleasant St., New Bedford, Mass.
Harold B. Sturtevant,	Chemistry and Dyeing.	Efficiency Chemist, Sayles Finishing Plants, Pawtucket, R. I.
Benjamin Waldstein,	General Cotton Manufacturing.	Night Overseer, Spinning Room, Skenandoa Cotton Co., Utica, N. Y.
Thomas G. Wong,	General Cotton Manufacturing.	Attending Harvard Graduate School of Business Administration.

Name	Certificate Courses	Occupation
Albert Brend,	Designing and Weaving.	Section Hand in Weave Room, Whitman Mill, New Bedford, Mass.
Frank L. H. Chow,	Special.	In mill business in China.
Russell E. Goff,	Carding and Spinning.	Cotton Broker, Boston, Mass.
Allan K. Hamer,	Mechanical Drawing and Machine Shop Practice.	Sign Painter, Hill Sign Co., New Bedford, Mass.
William L. O'Brien,	Mechanical Drawing and Machine Shop Practice.	Draftsman, Atlas Tack Co., Fairhaven, Mass.
Howland Wentworth,	Carding and Spinning.	With Holmes Mfg. Co., New Bedford, Mass.

REGISTER OF EVENING GRADUATES WHO HAVE RECEIVED DIPLOMAS.*

1904

Name		Occupation
Amos E. Hammond,	General Cotton Manufacturing.	Present address not known.

1906

George Winterbottom,	Carding and Spinning.	Present address not known.
Jim Green,	Designing.	Present address not known.

1907

William Acomb,	Designing.	Asst. Designer, Booth Mfg. Co., New Bedford, Mass.

Name		Occupation
Adelard J. LaChapelle,	Designing.	Designer, Grinnell Mfg. Corp., New Bedford, Mass.
Victor O. B. Slater,	Designing.	Designer, Whitman Mills, New Bedford, Mass.

1908

Philip C. Holmes,	General Cotton Manufacturing.	Clerk, Grinnell Mfg. Corp., New Bedford, Mass.

1912

Hughes L. Siever,	Chemistry and Dyeing.	Chemist, Morse Twist Drill & Machine Co., New Bedford, Mass.

1914

Diploma Courses

John W. Baldwin,	Chemistry and Dyeing.	Asst. Instructor in Chemistry and Dyeing, New Bedford Textile School.
Wright Bolton, Jr.,	Chemistry and Dyeing.	Master Mechanic, Acushnet Mills Corp., New Bedford, Mass.
John M. Palmer,	Chemistry and Dyeing.	Salesman, Borne, Scrymser Co., 36 Central Wharf, Boston, Mass.

1915

Name		Occupation
John F. Hagen,	Carding and Spinning.	Bookkeeper, Neild Mfg. Corp., New Bedford, Mass.

*The evening school diploma is given when an evening student has completed a course equal to the work required for a day diploma course. Certificates are granted when an evening student has completed a course of two years, two nights a week.

The following other men were students in the day classes for one or more years and for various reasons were obliged to leave before graduation, many of whom are holding excellent positions in the textile industry:

Mott Allen
Allan Barrows
Harold L. Bliss
George L. Branscomb
John G. Brown
Charles H. Brownell
Milton L. Brownell
Theodore W. Cole, Jr.
Walter C. Dexter
Rudolph C. Dick
Harold G. Dolliver
Harvey A. Ellis
Louis R. Foster
Carl H. France
Percy G. Kammerer
Joseph A. Kasmire
James F. Kinney
Joseph F. Knowles, Jr.
Eugene M. Leman.
Benjamin M. Long
John J. McAuliffe, Jr.
Albert H. McAuslan
Charles J. Mooney
George L. Olivier, Jr.
Francis A. Parker
Ralph F. Purrington
Albert Putz
Arthur P. Rogers
Ernst C. Sherman
Edwin W. Shore
Ralph A. Sisson
Carlton M. Smith
George M. Stafford
Genfong A. Sun
Charles R. Swift
Jireh Swift, 3rd
Ray B. Taber
Robert G. Tichon
Thomas Tillinghast
Walter A. Trow
John H. Tynan
John R. White
Waldo L. Whitmarsh